MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Healthy Homes Standards

Proposed healthy homes standards for heating, insulation, ventilation, moisture ingress, drainage and draught stopping

DISCUSSION DOCUMENT

September 2018

New Zealand Government

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Ministry of Business, Innovation and Employment (MBIE)

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September 2018

Foreword

I'm pleased to present this discussion document on proposed healthy homes standards for rental homes.

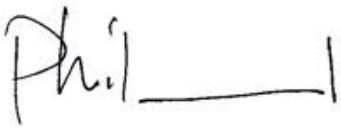
Ensuring every family has a warm, dry and secure home is one of the most important public health initiatives we can undertake. For many families their cold and damp home causes significant respiratory or cardiovascular conditions, toxic reactions, allergies, pneumonia, asthma, and other infections. Increasing the quality of New Zealand's housing stock will improve health, educational, climate and social outcomes.

New Zealand research shows that children who live in poor quality rental homes are at greater risk of being hospitalised, especially for diseases linked to housing, and that children are more likely to be re-hospitalised from the effects of cold, damp homes. The Ministry of Health data (2018) shows that there are approximately 10,800 children or 13,000 events with potentially housing related conditions presented to the hospitals in NZ each year. We cannot continue to accept this.

Last December, the *Healthy Homes Guarantee Act* passed through Parliament enabling health-related requirements for rental homes to be created. This document presents options for each of the five proposed healthy homes standards to help ensure rental homes are warmer and drier. The standards, covering minimum levels for heating, insulation, ventilation, draught-stopping, drainage and moisture-ingress, will make rental homes warmer and drier without imposing excessive rules or cost.

Cold and damp rental homes affect a large proportion of New Zealanders, with a third of New Zealanders in rental homes. These standards will improve the quality of rental homes by requiring minimum standards for heating, insulation, ventilation and drainage to be met in rental homes.

I encourage you to share your views on the topics covered in this discussion document. The outcome will go a long way towards improving the overall standard of rental homes for New Zealanders.



Hon Phil Twyford
Minister of Housing and Urban Development

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Why are we consulting?

Act enables Healthy Homes Standards

To help make New Zealand rental homes warmer and drier, the *Healthy Homes Guarantee Act 2017* (the HHG Act) was passed in late 2017.

The HHG Act enables the government to make healthy homes standards with which landlords must comply.[1]

The healthy homes standards can include indoor temperature standards that must be capable of being achieved in the home, standards about other outcomes that must be capable of being achieved in the premises, and standards imposing requirements for heating, insulation, ventilation, moisture ingress, draught stopping, drainage and any material or thing related to these areas.[2]

The standards can impose requirements for:

(a) things to be installed or provided at the home
(b) inspection, maintenance or replacement of things installed or provided at the home
(c) the quantities, locations, conditions, types or technical specifications of things installed or provided at the home and requirements about methods of installing or providing things at the premises.[3]

From 1 July 2019, landlords must include a statement of intent to comply with the healthy homes standards in a new, varied or renewed tenancy agreement.[4]

The insulation provisions of the *Residential Tenancies (Smoke Alarms and Insulation) Regulations 2016* (the 2016 regulations) will be superseded when the healthy home standards come into force. The smoke alarm provisions of the 2016 regulations will continue in force. Landlords must comply with the 2016 regulations. Otherwise they could be liable for non-compliance and damages under the *Residential Tenancies Act 1986* (RTA).

Landlords, tenants and related parties may also need to meet requirements under other relevant legislation, including:

- the *Building Act 2004* and the Building Code for new rental homes
- the *Unit Titles Act 2010* and the Unit Titles Regulations 2011
- the *Health and Safety at Work Act 2015*, the *Health Act 1956* and the *Housing Improvement Regulations 1947* (the HI Regulations).

The HI Regulations apply to rental homes (and owner-occupied homes) - there is no intention to revisit the HI Regulations at this time. The priority is to make discrete standards for the benefits of tenants through the healthy homes standards.

The scope of this discussion document

This discussion document only covers the healthy homes standards enabled under the HHG Act that apply to residential tenancies. Residential tenancies are those regulated under the RTA.

If you are a landlord, property manager or tenant of a private rental house, a boarding house or social housing, then these changes affect you.

Other government initiatives to make warmer and drier rental homes

Other government initiatives that impact the rental sector are underway. This discussion document links to, but will not consider, matters already considered through these initiatives:

1) **A reform of the *Residential Tenancies Act 1986*** is expected to commence over the coming months to support the Government's goal to make sure every New Zealander has somewhere they can feel at home. The primary objective of the reform is to improve tenants' security and stability of tenure while maintaining adequate protection of landlords' interests. Other initiatives to make tenants feel more at home and to modernise the law so it can respond to changing trends and patterns in the housing and rental markets are also considered. Your feedback on these changes is important.
2) **The Residential Tenancies Amendment Bill (No 2)** is currently before Parliament and makes three groups of amendments to the RTA related to contamination of rental properties, liability for damage to rental premises caused by a tenant, and tenancies over rental premises that are unlawful for residential use.
3) **The Residential Tenancies (Prohibiting Letting Fees) Amendment Bill** was introduced on 22 March 2018. The Bill prohibits letting agents, or any person, from requiring a tenant to pay a letting fee, or any other fee, in relation to a tenancy. Introducing this amendment will help to reduce the up-front costs faced by tenants and improve fairness for tenants.
4) **The Winter Energy Payment** was introduced on 1 July 2018 to help older New Zealanders - those receiving New Zealand Superannuation or a Veterans' Pension - and beneficiaries to heat their homes by increasing the amount of money available to them over the winter months. From 2019, the Winter Energy Payment will be paid from May to September and will provide $450 a year for single people and $700 a year for couples or those with dependent children.

How to have your say on the Healthy Homes Standards

You have an opportunity to tell us what you think of the proposed requirements for the healthy homes standards by providing feedback on the matters raised in this discussion document. You are welcome to make submissions on some or all of the discussion questions set out in this document.

How to comment on this discussion document

The Ministry of Business, Innovation and Employment (MBIE) invites written comments by **6pm on 22 October 2018**.

Your submission may incorporate relevant material provided to other reviews or inquiries. A submission may range from a short letter on one issue to a substantial response covering multiple issues. Please provide relevant facts, figures, data, examples and documents where possible to support your views. We appreciate receiving an electronic copy of posted submissions, preferably in Microsoft Word or searchable PDF format.

You can:

- complete your submission on the MBIE **website**:
  www.mbie.govt.nz/healthy-homes

- request a **hard copy** of this document by sending your name and postal address to:
  Healthyhomes@mbie.govt.nz

- **email** a submission to us at:
  Healthyhomes@mbie.govt.nz

- **post** your submission to us at:
  Ministry of Business, Innovation and Employment
  15 Stout Street
  PO Box 1473
  Wellington 6140
  Attention: Healthy Homes Standards submissions

Your submission may be made public

MBIE intends to post its summary of your submissions on the website at www.mbie.govt.nz. We will consider you have consented to this unless you clearly specify otherwise in your submission.

Submissions may be the subject of requests for information under the *Official Information Act 1982* (OIA). Please set out clearly in your submission if you object to the release of any information in the submission, and in particular, which part (or parts) you consider should be withheld together with your reasons for withholding the information. Examples may include that you have provided commercially sensitive material or you have privacy concerns. MBIE will take such objections into account when responding to requests under the OIA. Any

decision to withhold information requested under the OIA can be reviewed by the Ombudsman.

Any personal information you supply to MBIE in the course of making a submission will be used by MBIE only in conjunction with matters covered by this document. Please clearly indicate if you do not wish your name to be included in any information MBIE may publish.

What happens next

MBIE will analyse all submissions received and then report back to Ministers on the feedback with recommendations for their consideration. Your submission will help inform policy decisions for the healthy homes standards.

Below is an estimated timeline to make the proposed regulations by 1 July 2019:

Date	**Milestone**
4 September 2018	Discussion document released for public consultation
22 October 2018	Seven week public consultation period ends
December 2018	Cabinet makes final policy decisions on the healthy homes standards
1 July 2019	Regulations in force

What is the problem with New Zealand rental homes?

Many New Zealand rental homes are cold and damp

A substantial amount of households (588,700) rent in New Zealand.[5] Many of the rental homes are cold and damp.[6,7] Insufficient insulation, inadequate heating, drainage and ventilation, moisture ingress and poor draught stopping all contribute to making rental homes cold and damp.[8]

Research from an independent research organisation, BRANZ, shows that New Zealand's rental housing stock is consistently in worse condition on average than owner-occupied houses.[9]

New Zealand rental homes could be of poor quality for a number of reasons:

- landlords might not invest in improvements or ongoing maintenance to the home because there can be little incentive to do so, as some types of improvements benefit tenants only, particularly in a tight rental market
- landlords may not be clear, or aware of, their (legal) obligations and therefore do not comply
- tenants may not be clear, or aware of, landlords' obligations so do not raise issues. Also tenants' short tenure and a tight rental market may mean tenants are reluctant to raise issues about the home in general, especially if they are on a low-income or otherwise in a vulnerable position.[10]

Living in cold and damp homes can impact wider social outcomes

Cold and damp homes are strongly associated with people experiencing health issues, including respiratory and cardiovascular conditions.[11] Cold houses with insufficient insulation and heating systems, especially in winter, are linked to poor health outcomes.[12] Damp and mouldy homes are associated with toxic reactions, allergies, pneumonia and asthma, and other infections.[13,14,15,16] Homes with insufficient insulation, draughts and inefficient heating systems can create higher atmospheric carbon emissions.[17,18]

At-risk groups affected by cold and damp rental homes

Low-income, elderly, children, disabled persons, and Māori and Pacific Peoples are more likely than other groups to live in, or feel the effects of, cold and damp rental homes. As a result, these groups are at greater risk of negative social outcomes:

- **low-income:** a substantial portion of tenants in Auckland, which could reflect New Zealand overall, are in low-income households.[19] Tenants on a low income may be afraid to raise issues if they fear losing their tenancy or risk higher rent. Tenants on a low-income often cannot afford to heat their homes adequately,[20] because they spend a larger proportion of their income on energy bills than those on higher incomes.[21] Further, the potential costs to low income households, such as an increase in rent if landlords pass through costs, are likely to be more burdensome than to high income tenants

- **elderly:** the New Zealand population is ageing and more elderly are renting,[22] particularly Maori.[23] The World Health Organization (WHO) recommends elderly persons need a higher indoor room temperature (20°C) than the recommended minimum 18°C.[24] New Zealand homes are typically much colder than WHO recommended temperatures and local and international studies show the elderly are more likely to die in winter when living in a cold house[25,26]
- **children:** a higher percentage of children live in rental homes in New Zealand compared to thirty years ago.[27] The WHO has identified that low indoor temperatures have adverse effects in children and recommend an indoor temperature of 20°C to achieve an optimal environment.[28] New Zealand research also shows children who live in poor quality rental homes are at greater risk of being hospitalised, especially for diseases linked to housing, and that children are more likely to be re-hospitalised and die young[29]
- **disabled persons:** are more likely than non-disabled persons to rent in New Zealand.[30] More disabled renters report having difficulty keeping their home warm than non-disabled renters. Disabled renters are also more likely to experience damp homes than non-disabled renters[31]
- **Māori and Pacific Peoples** are the ethnic groups with the highest rates of renting.[32]

Limited data and information available on rental homes

We acknowledge this discussion document does not set out full costs and benefits of all proposed options. We undertook a cost benefit analysis (CBA) of the proposed options that helped to identify the scale of the impact of the proposed options for the healthy home standards. Gaps in certain areas were also identified and these gaps are part of the rationale to consult and provide opportunity to receive information from stakeholders on known costs and benefits of our proposals.

In addition to limited quantifiable benefit and cost impacts, limited housing quality data is available on New Zealand rental homes. These limits affect the development of the healthy homes standards. In the medium term, initiatives from central government (MBIE and Statistics New Zealand) and the independent research body, BRANZ, are working together to inspect homes in 2018 and 2019 to gain better insight of New Zealand housing conditions. The data gathered from these inspections will enhance information from the 2018 census and 2018 General Social Survey.

MBIE, Housing New Zealand Corporation (HNZC) and the Ministry of Health are also working to evaluate the interventions from the Healthy Homes Initiative established in 2013 to increase the number of at-risk children living in warm, dry homes in New Zealand and reduce avoidable hospitalisations from housing-related conditions. This information could assist the healthy homes standards work.

What are the objectives for the Healthy Homes Standards?

Our overarching objective is to establish minimum standards to allow New Zealand tenants to live in warm and dry rental homes.

The Government has a responsibility to ensure people in New Zealand have access to adequate housing. New Zealand signed and ratified the International Covenant on Economic, Social and Cultural Rights that recognises the right of everyone to an adequate standard of living including, but not limited to, the right to adequate housing and 'the continuous improvement of living conditions'.[33] The HHG Act and healthy homes standards work towards this objective by ensuring rental homes are warm and dry.

We aim to close the gap in quality standards for healthy rental homes and owner-occupier houses. Our goal is to develop specific standards for appropriate levels of heating, insulation, ventilation, moisture ingress, draught stopping and drainage to improve the quality of rental homes recognising the integrated nature of a home system.[34]

We anticipate raising the quality of rental homes will help to address the needs of identified at-risk groups: low-income, elderly, disabled persons, children and Māori and Pacific Peoples.

If rental housing quality is improved, other secondary benefits related to health, education and the environment may also result (e.g. reduced sick days off school and work, fewer hospital admissions for illnesses and reduced carbon emissions).

Criteria used to assess options for each of the healthy homes standards

Our proposed options for each standard have been assessed against the below criteria:

- able to achieve the objective (warm, dry rental homes)
- costs and benefits to landlords (time and money)
- costs and benefits to tenants (time and money)
- costs and benefits to government (clear and enforceable standards, court administration)
- enduring, flexible and enable adoption of future innovation and building solutions.

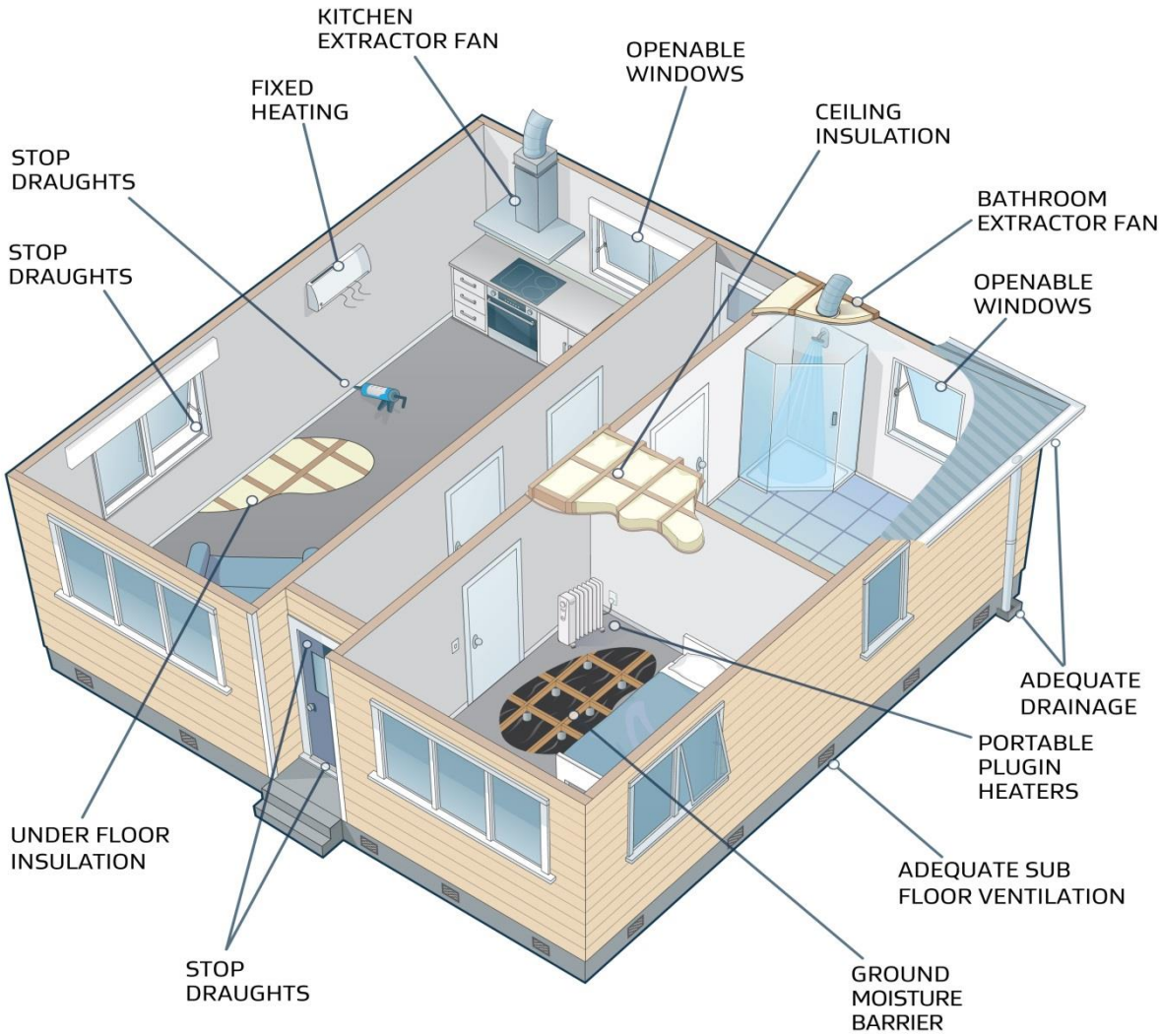
A balance must be struck between the costs and benefits of our proposals:

- landlords need to clearly understand their obligations and time to prepare to comply with their new responsibilities and the costs on landlords need to be reasonable
- tenants need to benefit from warmer, drier homes and understand landlords' obligations to allow them to raise any issues with their landlord or the Tenancy Tribunal
- industry participants need clear and certain requirements to build capacity to help implement the standards
- government could benefit from warmer, drier homes and less reliance on public services from secondary benefits (e.g. reduced use of publicly funded health services), and clear requirements could ensure higher compliance and reduce administrative burden.

The Healthy Homes Standards

We now seek your feedback on the standards that can be made under the proposed regulations to help make rental homes warm and dry.

We set out options for standards on insulation, heating, ventilation, draught stopping, moisture ingress and drainage.[35] We then consider and seek feedback on a workable compliance date for the standards and enforcement mechanisms.



Section 1: Heating

This section outlines the existing issue with cold, under-heated rental homes in New Zealand and seeks your feedback on heating options and questions.

What is the current issue with heating and New Zealand rental homes?

Many New Zealand rental homes are colder in winter than recommended indoor temperatures by World Health Organization guidance.[36]

Data from a BRANZ study indicates that, during the winter months, mean living room temperatures in New Zealand fall below the recommended range.[37] Living room and bedroom mean temperatures are typically 15.8°C and 14.2°C respectively during the day and fall to 13.5°C and 12.6°C respectively overnight.

Cold homes are associated with poor health and other social outcomes.[38] A lack of adequate heating has been associated with higher rates of winter deaths, increased risk of cardiovascular disease and respiratory conditions. Heating can reduce illness by maintaining a healthy air temperature, lowering relative humidity and dampness, and reducing the risk of mould and fungi.[39]

A large portion of New Zealand rental homes have no, inadequate, or inefficient heating available for tenants to use to reach a healthy indoor temperature.[40] The BRANZ 2015 House Condition Survey found that 22 per cent of New Zealand rental homes have no fixed heating compared to 7 per cent of owner occupied properties with no fixed heating.[41]

Tenants without fixed heating typically will rely on more costly to operate portable plug-in heaters and unflued gas heaters to warm a room.[42] The maximum heat output from portable electric heaters available in New Zealand is 2.4 kilowatts, which is typically not sufficient to achieve a healthy indoor temperature in larger living areas. Using multiple plug-in heaters in the same room is also not a practical solution because electrical circuits have limited capacity to power multiple plug in heaters.

Unflued gas heaters are a health and safety risk as they can produce toxic gases, such as nitrogen dioxide and carbon monoxide. Unflued gas heaters also produce water vapour that can make a room damp if it is not appropriately ventilated. The 2015 House Condition Survey found 21 per cent of rental homes have unflued gas heaters and for 6 per cent of rental homes this is their only source of heat.[43]

1.1 Where in the home should landlords be required to provide heating?

Currently, the *Housing Improvement Regulations 1947* requires every 'living room' shall be fitted with a fireplace and chimney or other approved form of heating.[44]

Option one – heating in living room only

Under option one, landlords must provide a form of heating in the main 'living room'. A living room could include a lounge, dining room and kitchen if it is an open plan rental home.

Advantages

Advantages of option one include:

- the objective of warm and dry rental homes in New Zealand is likely to be partially met if tenants use the heating devices installed
- fewer landlords are likely to need to upgrade their rental homes with heating devices and incur cost (estimate of 179,000 properties)[45] compared to option two (estimate of 250,000 properties) so there is less cost incurred by New Zealand landlords
- all tenants would be able to heat their main living room to a healthy temperature and enjoy reduction in ill-health from warmer homes. Tenants could also enjoy a reduction in energy costs if new heaters displace less energy efficient ones.

Disadvantages

Disadvantages of option one include:

- landlords who have not already provided heating devices in the living room will incur the cost to provide a heating device(s) compared to the status quo but less cost than option two. The average installed cost for a medium-sized heat pump of 5-7 kilowatts is about $3,000-3,500 including GST
- this option only partially contributes to the objective of ensuring rental homes are warm and dry. Option two is more likely to achieve the objective by heating more areas of the rental home
- tenants have to provide their own heating in other areas if landlords only provide heating in the living room and the type of heaters that tenants can provide themselves (portable electric heaters) may not be sufficient to heat other areas
- tenants may crowd, including during sleeping times, in the main living room if it is the only area of the home that requires adequate heating under the standard and other areas are cold. Cold areas in homes, particularly in bedrooms, can increase the risk and severity of illness and crowding has shown to increase infectious diseases being transmitted amongst tenants.

Option two – heating in living room and bedrooms

A landlord must provide a heating device in the main "living room" (lounge and dining room and kitchen if open plan) and an appropriate heating device in any room that is rented as a bedroom.

Appendix 1 provides scenarios for various New Zealand homes to exemplify the required heating device in a living room, kitchen/dining, and bedrooms. As shown in the scenarios at Appendix 1, portable plug-in heating devices are likely to have sufficient heating capacity in most bedrooms depending on the size of the room, the climate zone of the home and the level of insulation.

Advantages

Advantages of option two include:

- it is more likely to meet the objective of a warm, dry home than option one
- tenants with access to heating in bedrooms would especially benefit, particularly children and elderly and those with disabilities or illnesses that spend a large amount of time in the bedroom

- tenants are likely to suffer fewer health conditions associated with living in cold and damp homes resulting in reduced healthcare costs. Other potential benefits include fewer absences at work and school and crowding for long periods in a single heated space is avoided.

Disadvantages

Disadvantages of option two include:

- more landlords will incur higher costs to upgrade their rental home with new heating devices for multiple rooms compared to option one if they have not already provided adequate heating in their rental home. The average installed cost for a medium-sized heat pump of 5-7 kilowatts is about $3,000-3,500 including GST. We estimate plug in electric heaters are about $30-50.[46] An estimated 250,000 properties would need heating devices in the living room and bedrooms[47] so a higher total cost to New Zealand landlords would be incurred than option one
- reductions in producer surplus for energy suppliers as new heaters displace some older less energy efficient ones[48] will outweigh a positive producer surplus for suppliers of equipment
- tenants may not use heating in a way that achieves healthy indoor temperatures, and therefore not receive the anticipated health benefits. This may be because they choose not to use the heating or they are unable to afford the running costs of the heating that is installed in their rental home.

The 2018 cost-benefit analysis from the New Zealand Institute of Economic Research (NZIER) provides that, the proposed heating options are likely to yield net benefits if applied to living rooms only, but become slightly less net beneficial if extended to cover bedrooms.

With the assumptions used, upgrading the primary heating in living rooms alone to 18°C or 20°C is more net beneficial than upgrading secondary heating in bedrooms with a benefit cost ratio of 1.34 and 1.28 respectively.[49] The analysis also shows that the benefit cost ratio is lower at 0.26 and 0.80 respectively to reach 18°C or 20°C in bedrooms only. However, to reach 18°C or 20°C in both living rooms *and* bedrooms, the benefit cost ratio is 1.30 and 1.26 respectively.

The cost benefit analysis could not quantify all benefits from proposed options for heating devices in a wider range of rooms in rental homes. Additional qualitative benefits from a warmer home may include benefits related to a higher feeling of well-being and comfort, improved mental health, improved attendance at school or work, and decreased property maintenance for landlords.

Options Summary: location of the heating device in a rental home	
Option One (status quo)	Living room only (includes kitchen and dining room if open plan rental home)
Option Two	Living room (includes kitchen and dining room if open plan rental home) and bedrooms

Questions for your feedback:	
	Do you support option one or two for the location of heating devices that landlords must provide in rental homes? Please explain your reason.

1.2 Online tool to determine adequate heating devices

We propose to use the formula at Appendix 1 to determine the capacity required for heating devices for a room to achieve the appropriate indoor temperature.

We also propose that this formula will be used for a user-friendly online tool that will guide a landlord or tenant on the types of heating device that are capable of achieving the appropriate indoor temperature.

For instance, a landlord or tenant could input the home's location, a room's size, a room's insulation level and the number and characteristics of windows (i.e. openable, double glazed) to determine an appropriate heating device.

Some rental homes may have been designed and built to a very high standard of thermal performance and may not require a heater to achieve the required indoor temperature.
Please see the "Implementation" section 7.2 for more information.

1.3 What achievable indoor temperature should heating devices be sized for?

Landlords need to provide heating devices for their rental homes that are capable of achieving an appropropriate temperature in rooms covered by the heating standard.The temperature will inform the necessary heating device for the room(s) under the heating standard.

The current WHO guidance recommends a minimum indoor temperature of 18°C for the general population and for certain groups, such as the sick, persons with disabilities, the very old and the very young, a minimum indoor temperature of 20°C.[50]

Option one – heaters must be capable of achieving an indoor temperature of at least 18°C

Landlords need to provide heaters **capable of achieving** an indoor temperature of **at least 18°C** in the room(s) applicable to the heating standard.

Advantages

Advantages of option one include:

- the objective of creating warmer, drier rental homes is likely to be met through this option because there is the ability to heat rooms covered by the standard to at least 18°C
- the general population of tenants are likely to benefit from a warmer, drier rental home as the recommended temperature for this group is at least 18°C

Disadvantages

Disadvantages of option one include:

- landlords, who have not already provided heating devices capable of achieving an indoor temperature of at least 18°C, could incur capital costs to provide such heating devices
- at-risk groups, such as the children, the elderly and ill, may not be able to heat the applicable room(s) to the higher temperature recommended for their needs (20°C).

Option two - heaters must be capable of achieving an indoor temperature of at least 20°C

Landlords need to provide heaters **capable of achieving** an indoor temperature of **at least 20°C** in the room(s) applicable to the heating standard.

Advantages

Advantages of option two include:

- the objective of warm and dry rental homes in New Zealand is more likely to be met compared to option one as room(s) applicable to the heating standard will have the ability to achieve an indoor temperature of at least 20°C
- all tenants, but particularly at-risk tenants such as the elderly, children and the ill, will benefit from having rental homes that have the ability to achieve an indoor temperature of at least 20°C in rooms covered by the heating standard compared to option one.

Disadvantages

Disadvantages of option two include:

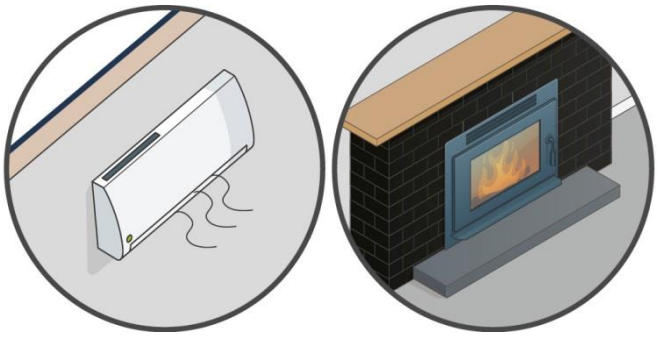
- landlords, who have not already provided heating devices capable of achieving an indoor temperature of at least 20°C could incur capital costs to provide such heating devices. It is likely that a greater number of landlords would incur costs to provide such heating devices compared to option one
- landlords that need to upgrade their rental homes' heating devices for the tenants would likely face greater costs compared to option one because the cost of heaters that can achieve the higher indoor temperature tends to be higher.

Options Summary: indoor temperature that heating devices should be sized for in a rental home	
Option One	Heaters that landlords provide must be capable of achieving an indoor temperature of **at least 18°C** in rooms applicable to the heating standard
Option Two	Heaters that landlords provide must be capable of achieving an indoor temperature of **at least 20°C** in rooms applicable to the heating standard
Questions for your feedback:	
	Do you support option one or two above on whether landlords should provide heating devices that are capable of reaching 18°C or 20°C in room(s) covered by the heating standard? Please explain.

1.4 Should landlords only be required to provide heating devices where portable electric heaters are insufficient to achieve the required indoor temperature?

Certain heating devices may achieve the required indoor room temperature. See Section 1.2 for information on the online tool to assist landlords determine adequate device(s) required depending on the characteristics of the home (e.g. room size, level of existing insulation, number, size, and glazing level of windows).

The standards can impose requirements for things to be installed or provided at the home.[51] In some cases, fixed heaters (e.g. heat pumps) will be the best device to heat a room to the appropriate indoor room temperature. In other cases, portable plug-in heating devices will likely be sufficient to heat a room to the appropriate indoor room temperature.



Option one – landlords provide fixed heating devices only

Under option one, landlords must only provide heating devices where portable electric heaters are insufficient to achieve the appropriate indoor room temperature in the rooms covered by the heating standard (see Sections 1.1 to 1.3). Where rooms covered by the heating standard can be sufficiently heated by portable electric heating devices, landlords would not be required to provide any heating devices.

Advantages

Advantages of this option include:

- landlords would incur only the cost of providing and maintaining a fixed heating device(s) and not the cost of portable heating devices
- tenants have the choice and discretion on the design and type of portable electric heating they use where these are sufficient to achieve the required indoor temperature. Tenants may incur less running costs to heat a room/home if they have the flexibility to choose their own portable heating device
- landlords would avoid investing in the types of heaters many tenants own already and can easily provide themselves. Portable electric heaters are already present in about half of all rentals.[52]

Disadvantages

Disadvantages of this option include:

- this option is less likely to meet the objective of a warm, dry home in cases where tenants are unable to afford their own portable plug-in heater (estimated cost of $30-$50) compared to option two.

Option two – landlords provide both fixed and portable heating devices

For option two, landlords must provide fixed and portable heating devices where necessary to achieve the appropriate indoor room temperature in the rooms covered by the heating standard (see Sections 1.1 to 1.3).

Advantages

Advantages of this option include:

- this option is more likely to meet the objective of a warm, dry home in cases where tenants are unable to afford their own portable plug-in heater
- all tenants, including those who cannot afford to buy a portable electric heater, can still heat a room/home to the appropriate indoor temperature so would be more likely to enjoy some health benefits and reduced mortality risk from warmer homes.

Disadvantages

Disadvantages of this option include:

- landlords incur higher capital costs for this option compared to option one to provide both fixed heating devices and portable heating devices. For example, the average installed cost for a medium-sized heat pump of 5-7 kilowatts is about $3,000-$3,500 including GST and the average cost per portable electric heater is about $30-50 with maintenance costs $20 – 100 per year for heat pumps.[53]

Options Summary: heating devices landlords should provide in rental homes	
Option One	Landlords only provide (fixed) heating devices in cases where portable electric heaters are insufficient to heat the required rooms
Option Two	Landlords must provide fixed and portable heating devices to heat the required rooms
Questions for your feedback:	
	Do you support option one or two for heating devices to be provided by a landlord in a rental home?

1.5 Should we accept some heating devices, and not others?

Certain heating devices are efficient and affordable to run, such as heat pumps, wood burners and flued gas heaters. We propose to make these acceptable devices under the heating standard because they are efficient and more affordable to run than other heating devices.

Some rental properties may have existing heaters that have sufficient capacity to meet the standard minimum temperature but could be considered unhealthy or inefficient. Open fires and high-wattage electric resistance heaters tend to be less cost-effective to run than modern appliances and unflued gas heaters can generate moisture and toxic combustion gases, resulting in mould and indoor air pollution contributing to poor health outcomes.

The heating standard could be set so that unhealthy or inefficient and unaffordable forms of heating would not meet the standard. Guidance could specify the types of heating devices considered not acceptable. We consider the following would be not acceptable heating devices:

- **unflued heaters (including unflued gas and kerosene heaters):** unflued gas heaters release moisture and toxic gases and are one of the most expensive heating options. If these devices were not acceptable then it may lead to tenants experiencing fewer illnesses associated with exposure to mould and pollutants
- **open fires:** open fires generally operate at approximately between 5 per cent and 15 per cent efficiency with the majority of the heat they produce escaping through the chimney. This makes them ineffective and expensive to run. They also significantly contribute to indoor and outdoor air pollution
- **all electric heaters (except for heat pumps) with a heating capacity of greater than 2.4 kilowatts:**[54] electric heaters greater than 2.4 kilowatts would not be acceptable because they are expensive to run and reduce the likelihood of tenants using them. This would include electric night-store heaters which do not provide consistent heating capacity at all times and which provide tenants with limited control over when they heat the room
- **using multiple portable electric heaters in one room:** multiple portable plug-in heaters in one room with a combined capacity greater than 2.4 kilowatts would not be acceptable because they could overload electrical wiring and cause fire hazards and because multiple electric resistive heaters are expensive to run and reduce the likelihood of tenants using them.

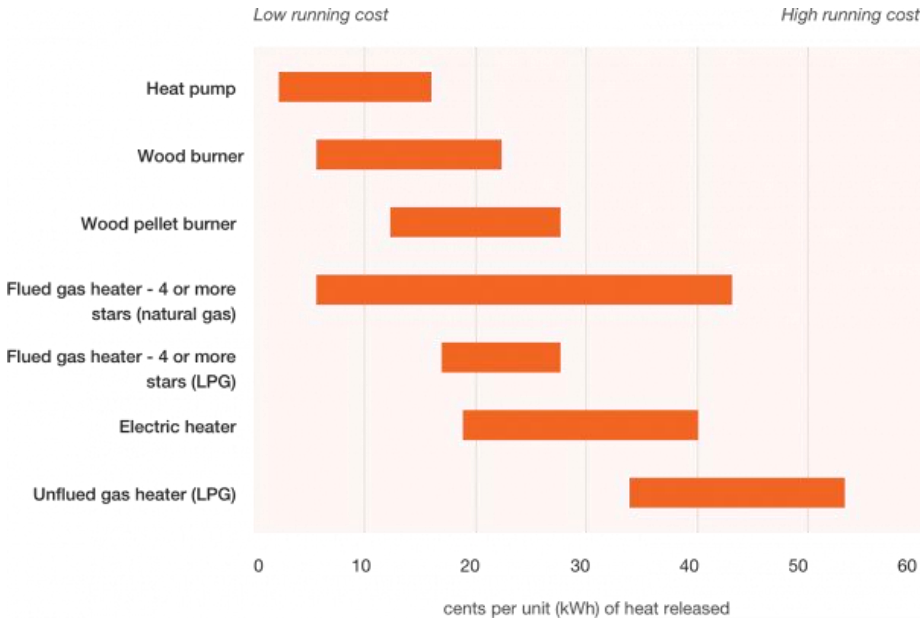
The advantages of not accepting certain heating devices include:

- landlords do not incur capital costs on heating devices that are inefficient, unaffordable or unhealthy
- tenants enjoy a reduction in energy costs on their primary heating if replaced by more affordable to operate devices[55]
- government and public benefit if less energy efficient heating is replaced by more efficient heating leading to a reduction in carbon emissions[56]. Government and public

also benefit from less demand on publicly funded services in health and other social support.[57]

A 2010 NZIER report[58] notes a review of liquefied petroleum gas (LPG) cabinet heaters found substantial health costs associated with the use of these heaters which aggravated asthma and other pre-existing respiratory conditions. These heaters also increase the risk of accidental asphyxiation when used in small rooms without ventilation and pose a fire risk.[59]

Diagram 1: Approximate running costs of different types of heaters.



Source: EECA

Questions for your feedback:	
	Do you agree that a class of acceptable heating devices is created for those devices that are efficient, healthy and affordable for the heating standard? Please explain.
	Do you agree that the heating devices listed above (unflued heaters, open fires etc) should be not acceptable for the heating standard? Please explain.
	What other types of heating, if any, do you think should be acceptable or not acceptable in the heating standard? Why?

Section 2: Insulation

This section outlines the existing issue with insulation and New Zealand rental homes and seeks your feedback on the adequate level of insulation, exceptions, and records to be retained by a landlord.

What is the current issue with insulation and New Zealand rental homes?

Many rental homes still do not have adequate insulation to retain heat and therefore are more likely to be cold, damp and mouldy.[60] Cold, damp and mouldy houses can create poor health and other negative social and environmental outcomes, such as increased carbon emissions, air pollution and energy costs from heating uninsulated homes.

Ceiling and underfloor insulation can be fairly easily retrofitted because many rental homes have accessible roof and/or subfloor spaces. In contrast, retrofitting wall insulation and double-glazing is more costly and usually involves substantial building work (such as removing internal wall linings) which could be quite disruptive to tenants living in a rental home. For this reason, current insulation regulations and the options proposed for the insulation standard are limited to requirements for ceiling and underfloor insulation retrofitting.

The 2016 regulations require landlords to install or retrofit ceiling and underfloor insulation in rental homes with no or minimal insulation by 1 July 2019 unless an exception applies. Landlords also need to ensure the insulation is in reasonable condition to help protect against cold and damp rental homes.[61] The 2016 regulations are in place until 1 July 2019 when they will be replaced by the new standards or continue in force. We wish to seek feedback on the benefits of a higher insulation standard than the 2016 regulations balanced against the associated costs.

The standard of insulation required cannot be set so high that landlords incur additional costs to purchase and install insulation that provides minimal benefits to tenants, particularly if existing insulation met the standard at the time and is still in reasonable condition. Tenants who live in a home with no or inadequate insulation are likely to require more heating and higher energy bills compared to well insulated homes. We need an insulation standard that provides landlords with clear obligations and that is easy to enforce (including records of the level of insulation when originally installed).

The insulation standard needs to cater for certain homes that may have access issues where it is too challenging or not practical to insulate. It also needs to be sufficiently flexible to cater for any future innovation in insulation technology.

The insulation must be well installed and maintained. Insulation that is not installed well and maintained will not perform well.[62] Sub-optimal insulation includes insulation that does not fully cover the required space, has settled in a way that inhibits its performance, covers downlights in an unsafe manner, is damaged or mouldy, has gaps or holes or is infested.

Safety is not included within the scope of the proposed regulations. However, it must be noted that certain materials, such as foil insulation, can cause an electrical safety risk and should not be used. As it is metal-based, foil conducts electricity and will become live if the foil or fixing staples make contact with live wires. In the constricted space and low light of a typical subfloor, the risk of electrocution is high.

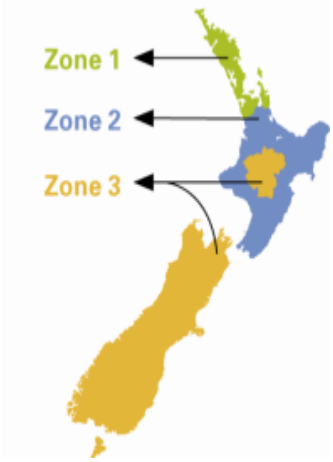


Figure 1: Map of New Zealand climate zones

Current insulation requirements for landlords in New Zealand

Insulation in the ceiling and underfloor of a home help to retain heat to keep a home warm during cooler periods or reduce heat gain in warmer months.

New Zealand measures the desired thermal effectiveness of insulation with an "R-value". The higher the R-value, the more effective the insulation in reducing heat loss but to achieve its full R-value, the insulation must be properly installed and in reasonable condition.

Current regulation for insulating existing New Zealand rental homes

Since 1 July 2016, landlords need to meet ceiling and underfloor insulation requirements in their rental homes as set out in the 2016 regulations:[63]

- if insulation was installed **before** 1 July 2016, to qualify it must be in reasonable condition (or better), not had major repairs on or after 1 July 2016, and when originally installed, meets the R-value of at least:

  a) ceiling: 1.9 or 1.5 if the ceiling is in a building of high thermal mass construction

  b) underfloor: 0.9.

- for insulation installed **after** 1 July 2016, landlords must fully cover the ceiling and underfloor of habitable spaces with insulation[64] that is in a reasonable condition, installed in accordance with the New Zealand Standard[65] and, when originally installed, had the R-value of at least:

  c) ceiling: 2.9 if the premises are located in zones 1 or 2 or 3.3 if the premises are located in zone 3 (see figure 1 for a map of New Zealand climate zones)

  d) underfloor: 1.3.

Landlords need to include an insulation statement to disclose the extent of insulation in a rental home in new tenancy agreements.

Where insulation is being repaired or installed in rental homes, landlords must meet the current New Zealand Standard for insulation installation: NZS 4246:2016.

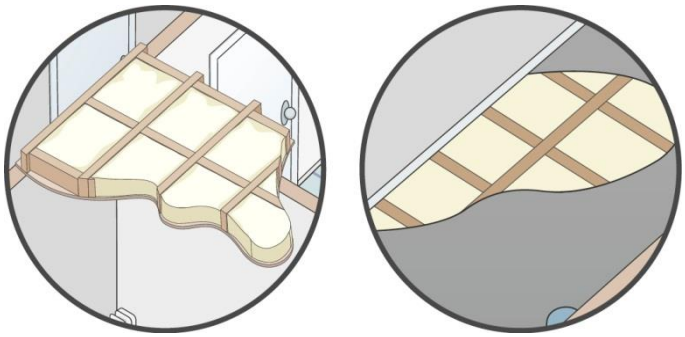
Landlords are prohibited from installing or repairing electrically conductive insulation (e.g. foil) in any ceiling or suspended floor in their rental home.[66]

Landlords who install ceiling and underfloor insulation to comply with the current insulation requirements for rental homes will not need to carry out further work on that insulation to comply with the Healthy Home Standards as long as the insulation remains in reasonable condition (i.e. no gaps, degradation that meets guidance thresholds, no dampness). Landlords need to comply with the existing regulations by 1 July 2019 otherwise they may be liable for exemplary damages.

Exceptions

The 2016 regulations set out that a landlord is excepted from requirements if:[67]

- it is not reasonably practicable to install insulation
- the home complies with the requirements relating to thermal insulation at the time it was installed and the landlord has the relevant record showing compliance with those requirements
- the landlord intends to demolish or substantially rebuild the home within 12 months and applied for any necessary resource consent or building consent before the tenancy commenced
- for 12 months from the date the tenancy commences, if the tenant is the former owner of the home.



2.1 What minimum level of insulation should be required in rental homes?

Table 1: The proposed options for a minimum level of ceiling and underfloor insulation in rental homes for the insulation standard

Options	Ceiling requirements	Underfloor requirements
Option One (status quo + continue)	**Insulation installed before 1 July 2016 must be replaced or 'topped up' if below**: • minimum R-value of 1.9, or 1.5 if in a building of high thermal mass construction	**Insulation installed before 1 July 2016 must be replaced or 'topped up' if below:** • 0.9
	Installed from 1 July 2016 + continue from 1 July 2019: • 2.9 if the home is located in zones 1 or 2 • 3.3 if located in zone 3	**Installed from 1 July 2016 + continue from 1 July 2019**: • 1.3
Option Two (akin to "2001 Building Code")	**Existing insulation must be replaced or 'topped up' if below:** • 1.9 if the home is located in zones 1 or 2 • 2.5 if located in zone 3	**Existing insulation must be replaced or 'topped up' if below:** • 1.3
	All new insulation installed must be at least: • 2.9 if the home is located in zones 1 or 2 • 3.3 if located in zone 3	**All new insulation installed must be at least**: • 1.3
Option Three (akin to "2008 Building Code")	**All existing and new insulation must be at least:**: • 2.9 if the home is located in zones 1 or 2 • 3.3 if located in zone 3	**All existing and new insulation must be at least**: • 1.3

Option one (continue the status quo)

The requirements under the 2016 regulations (set out above) would continue to apply after 1 July 2019 so landlords must replace or retrofit insulation to meet (or exceed) the requirements for ceiling and underfloor insulation in their rental homes.

Advantages

Advantages of option one include:

- landlords incur less capital costs than options two and three and do not need to understand new obligations so continuing the status quo may be easier to comply with than options two and three that require "new" insulation standards for rental homes

- most tenants will at least have some level of ceiling and underfloor insulation in their rental home and experience some health benefits and energy savings compared to those living without insulation or heating[68]

- government/taxpayers benefit from homes being able to be heated more efficiently due to improved insulation leading to a reduction in carbon emissions and government/taxpayers benefit from less demand on publicly funded services in health and other social support.[69]

A 2012 report from Motu, the University of Otago and Victoria University on the cost-benefit analysis for the *Warm Up New Zealand: Heat Smart Programme* found an overall benefit cost ratio of 3.9 for homes that installed insulation and clean heating as part of this programme. In effect, this means the benefits were almost four times the costs of the programme. Most of the benefits arose from installing insulation. This benefit cost ratio could be said to be conservative because it did not include further benefits, such as the comfort benefits associated with additional interior warmth and possible reductions in non-metered energy use.[70]

NZIER's CBA report found all of the proposed insulation options in this document would yield positive net benefits that principally accrue to tenants through reductions in ill health and a reduction in costs from lower energy bills.[71] The CBA also found a benefit from reduced greenhouse gas emissions but suppliers of energy lose some producer surplus that outweighs the gain in producer surplus for suppliers of insulation. Landlords bear the principal costs in the first instance, although may try to recover through rents.[72]

The benefits are sufficiently high that both option two and option three are likely to be net beneficial across the range of rental homes expected to need new insulation. The cost benefit ratio for option two is 1.54 and for option three is 1.50-1.51. The results suggest that option three has a slightly lower return per cost incurred than option two. This is because option three incurs more cost in covering more houses, but the incremental energy saving is slightly less in topping up some insulation currently at the 2001 benchmark compared to topping up insulation at the 1978 benchmark. Nonetheless, as option three covers more houses it produces greater total net benefits than option two.[73]

Disadvantages

Option one has the following disadvantages.

- We assume full compliance with the 2016 regulations therefore no additional homes will initially need to retrofit insulation under the proposed insulation standard option one. However, if a more stringent interpretation of "reasonable condition" for insulation was applied, an estimated additional 40,000 rental homes would require a ceiling insulation top up (see Section 2.2).

- Tenants in rental homes with some, but not optimal, levels of insulation are not targeted under this option so may miss out on the benefits from insulation improvements to their home.

Option two

Landlords must replace or retrofit ceiling and underfloor insulation in their rental home if it is not in a reasonable condition (or better), and, when originally installed, did not have the R-value of (at least):

a) ceiling: 1.9 if located in zones 1 or 2 and 2.5 if located in zone 3

b) underfloor: 1.3.[74]

These R-values are the minimum level of ceiling and underfloor insulation for new homes built between the years 2001 and 2008. This option would require the retrofitting or replacing ceiling and underfloor insulation if it did not meet the 2001 insulation standard when it was installed or if it is not in reasonable condition.

The 2001 Building Code insulation standard increased the R-value of floor insulation for all climate zones from 0.9 to 1.3 but, in practice, the methods and products for underfloor insulation did not change. Increasing the level to R1.3 would not require additional properties upgrade their underfloor insulation presuming the underfloor insulation is not damaged, complete and secure.

Where the insulation does not meet the requirements of this option, landlords must install or top-up insulation in accordance with the relevant New Zealand Standard to meet the following minimum R-values:

a) ceiling: 2.9 if the premises are located in zones 1 or 2 or 3.3 if the premises are located in zone 3

b) underfloor: 1.3.

Advantages

The advantages of option two include:

- a higher number of additional rental homes (10,000 – 70,000), depending on how "reasonable condition" is assessed (see section 2.2), will benefit from an insulated rental home than the status quo so it is likely more rental homes will be warmer and drier.

- tenants in homes where insulation has been "topped up" under this option have the potential to experience reduced costs from improved health (e.g. fewer deaths) and reduced costs from lower energy bills.[75] [76] A recent 2018 analysis shows specific benefit from health savings from insulation 'top ups'.[77] Tenants may use less energy if the home is more adequately insulated resulting in lower energy bills

- government/taxpayers benefit from homes being able to be heated more efficiently due to improved insulation leading to a reduction in carbon emissions and government/taxpayers benefit from less demand on publicly funded services in health and other social support. However, the CBA found that the energy saving is slightly less in topping up some insulation currently at the 2001 benchmark levels.[78]

Disadvantages

The disadvantages of option two include:

- more landlords will incur capital costs to purchase and install ceiling insulation top ups (estimated average of $1,665 including GST[79]) than option one but likely fewer than option three. An estimate of 10,000 – 70,000 homes would need to receive ceiling insulation top up, depending on how reasonable condition is assessed (see section 2.2).

- government will likely incur greater costs to develop and deliver an information and education campaign(s) targeted to all landlords to explain the new requirement to help prevent confusion and enforcement than the status quo (option one).

Option three

Landlords must replace, retrofit or 'top up' ceiling and underfloor insulation if it is not in reasonable condition (or better), is not in accordance with the relevant New Zealand Standard[80] and, when originally installed, did not have the R-value (at least) of:

a) ceiling: 2.9 if the premises are located in zones 1 or 2 or 3.3 if the premises are located in zone 3

b) underfloor: 1.3.

These R-values are currently the minimum level of ceiling and underfloor insulation for new homes built since 2008 under the 2008 Building Code.

Advantages

Advantages of option three include:

- a higher number of additional rental homes (80,000 – 190,000) will benefit from an insulated rental home compared to options one and two depending on how "reasonable condition" is assessed (see section2.2) to meet the objective for warm rental homes
- tenants in homes where insulation has been 'topped up' under this option have the potential to experience reduced costs from improved health (e.g. fewer deaths) and reduced costs from lower energy bills.[81] [82] A recent 2018 analysis shows specific benefit from health savings from insulation 'top ups'.[83] Tenants may use less energy if the home is more adequately insulated resulting in lower energy bills
- landlords and government have a single standard that is clear and applies to all rental homes (including new build homes), that may reduce the likelihood of disputes and enforcement costs
- government/taxpayers benefit from homes being able to be heated more efficiently due to improved insulation leading a reduction in carbon emissions and government/taxpayers benefit from less demand on publicly funded services in health and other social support. However, the CBA found that the energy saving is slightly less in topping up some insulation currently at the 2001 benchmark levels.[84]

Disadvantages

Disadvantages of option three include:

- more landlords will incur capital costs to purchase and install insulation ($1,665 including GST) under this option compared to options one and two as it will require the most rental homes – an estimate of 80,000 – 190,000 homes – to 'top up' their insulation.
- industry capacity constraints could mean longer compliance timeframes are required for the standards
- government is likely to incur greater costs to develop and deliver information and education campaigns targeted at all landlords to explain the new requirement to prevent confusion and to enforce the standard than the status quo (option one).

Questions for your feedback:	
	Which of the options (one, two or three) for the minimum level of insulation required do you support? Please explain.
	Do you agree that the exceptions set out in the 2016 regulations should continue under the proposed insulation standard (e.g. when it is not reasonably practicable to install insulation)? Please explain.
	Do you think any other requirements for insulation should be included in the standard and, if so, what?
	Would any of the above options inhibit future innovation and/or flexibility? If so, how?

2.2 How should the degradation of insulation under "reasonable condition" be assessed?

Under the proposed options of Section 2.1, existing ceiling and underfloor insulation must be in 'reasonable condition' and, when originally installed, have met certain minimum R-values.

To help landlords and tenants interpret and assess whether existing insulation in their rental homes complies with the 'reasonable condition' requirement of the regulations, guidance from MBIE will set out a simple visual test for landlords and tenants.[85] We seek your feedback on a proposal to change that guidance so the level of degradation for insulation is assessed more stringently to work at a more optimal level.

Current Tenancy Service Guidance assesses existing ceiling insulation as meeting the 'reasonable condition' requirement if, for instance, ceiling insulation has not settled below 70 millimetres thick and has no mould, dampness or gaps.

Option one (status quo)

The following must be taken into account to determine whether any insulation is in a reasonable condition:

- the extent to which the performance of the insulation is compromised by any aspect of the insulation's condition
- the extent of any dampness, damage, degradation or displacement: ceiling insulation must not have excessively settled or compressed. Notably, for existing ceiling insulation, settlement or compression of up to 30% compared to the insulation's original thickness is deemed acceptable in guidance[86]
- the condition of any materials or other items that are ancillary to the installation of the insulation (e.g. strapping or staples).[87]

Table 2 sets out what current minimum thickness for ceiling insulation would need to have under the assessment of degradation to be in "reasonable condition" in guidance.

Table 2: Minimum thickness of existing ceiling insulation under "reasonable condition" option one

Minimum level of insulation (see section 2.1)	Minimum R-value when originally installed	Minimum thickness for ceiling insulation"	Estimated additional number of rental homes requiring a ceiling insulation upgrade compared to 2016 regulations
Option one (status quo)	1.9	70 mm	0
Option two (2001 insulation standard)	1.9 – 2.5	70 – 90mm	10,000
Option three (2008 insulation standard)	2.9 – 3.3	100 – 120 mm	80,000

Advantages

Advantages of option one include:

- this option is likely to help meet the objective to make rental homes warm and dry by ensuring existing ceiling and underfloor insulation, as installed, is reasonably effective, however, less so than under option two
- landlords and government have a clear guidance on the definition of the insulation condition that is easy to visually assess in rental homes. Tenants will also be able to check if the insulation in their rental homes complies and, if required, can raise any issues with their landlord or the Tenancy Tribunal
- a higher allowance for ceiling insulation settlement or compression means fewer landlords will be required to top-up insulation so landlords will incur less costs.

Disadvantages

Disadvantages of option one include:

- a generous allowance for ceiling insulation settlement or compression means the effective minimum standard for ceiling insulation is lower than under option two. This means some tenants will miss out on the benefits from insulation improvements to their home. This could have negative health outcomes and higher heating costs for this group of tenants, particularly under options one and two in Section 2.1.

Option two

Insulation must meet the "reasonable condition" criteria described in option one above. However, for ceiling insulation, only a very minimal reduction in insulation thickness as a result of settlement or compression will be deemed acceptable in the assessment of reasonable condition.

The following table sets out what minimum thickness existing ceiling insulation would need to have under this interpretation of "reasonable condition".

Table 3: Minimum thickness of existing ceiling insulation under "reasonable condition" option two

Minimum level of insulation (see section 2.1)	Minimum R-value when originally installed	Minimum thickness for ceiling insulation	Estimated additional number of rental homes requiring a ceiling insulation upgrade compared to 2016 regulations
Option one (status quo)	1.9	90 mm	40,000
Option two (2001 insulation standard)	1.9 – 2.5	90 – 120 mm	70,000
Option three (2008 insulation standard)	2.9 – 3.3	140 – 160 mm	190,000

Advantages

Advantages of option two over and above option one include:

- this option is likely to better help meet the objective to make rental homes warm and dry than option one, by ensuring existing ceiling and underfloor insulation, as installed, is reasonably effective and that ceiling insulation has not compressed or settled significantly
- more tenants will benefit from insulation 'top-ups', and are therefore likely to experience health and heating cost saving benefits. More tenants may use less energy
- government may benefit from a reduction in energy use in its aim to reduce carbon emissions compared to option one.

Disadvantages

Disadvantages of option two include:

- landlords face higher costs under this option as it will require more rental homes to 'top up' their ceiling insulation.

Questions for your feedback	
	Do you support option one or two to assess a "reasonable condition" for insulation? Please explain.
	Do you think any other criteria for interpreting "reasonable condition" of insulation should be included and, if so, what?

2.3 How can landlords show compliance with the insulation standard?

We seek your feedback on how landlords can show compliance with the insulation standard.

The HHG Act allows for records or other documents to be retained by a landlord.[88] We propose that a landlord is required to retain a record to show compliance with the standard. Options for potential records include:

- the R-value when the insulation was installed
- a record of Building Code compliance and the level of insulation
- a suitably qualified and experienced assessor has certified compliance with the insulation standard.

Questions for your feedback:	
	Do you agree landlords should show compliance with the insulation standard by retaining particular records? If so, which records should be retained? Please explain.

Section 3: Ventilation

This section outlines the existing issue with ventilation and New Zealand rental homes. It then provides you with options to resolve the problem and seeks your feedback on these options.

What is the issue with ventilation in New Zealand rental homes?

Many New Zealand rental homes are currently poorly ventilated, leading to dampness and mould.[89] Mould can lead to poor health outcomes for tenants.[90,91]

The presence of dampness and mould is a particular problem in areas where high moisture events are caused by everyday activities, such as showering, cooking, and drying clothes. These activities generate moisture that remains inside a rental home if it is not well ventilated.[92,93] Air needs to flow in and out of a home so it stays fresh, dry and healthy. BRANZ recommends to regularly open windows and doors wide for 10 – 15 minutes and to use extract fans to provide sufficient ventilation after a high moisture event, such as showering or cooking.[94,95] Tenants may be unwilling to leave windows open due to the entry of cold air or security concerns.

A study by BRANZ shows New Zealand rental homes had visible mould at greater levels than owner-occupied homes in all areas of the home (see Table 4 below). Bathrooms were the most common rooms with mould, followed by the laundry and the kitchen.

Table 4: Mould visible in different areas of New Zealand homes[96]

Location	Rental	Owner-occupied
Bathroom	43%	38%
Laundry	27%	18%
Kitchen	23%	14%
All other rooms	30%	19%

BRANZ data supplied to MBIE suggests around 37 percent of rental homes in New Zealand do not have mechanical ventilation (e.g. fans to extract moisture) in the kitchen and 44 percent do not have mechanical ventilation in the bathroom. A further 17 percent of kitchens and 12 percent of bathrooms have mechanical ventilation that is not venting outside (either just recirculating the air within the home or venting it into the roof cavity).[97] Bathrooms without mechanical extract fans or heating were twice as likely to have moderate or worse patches of mould compared to those with extractors or heating.[98] Kitchens without any mechanical ventilation were three times as likely to have visible mould compared to those with mechanical ventilation.[99]

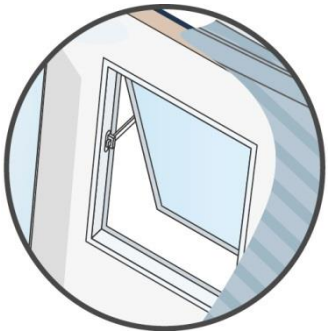
Insufficient sub-floor ventilation is also a problem in New Zealand homes - see the “Moisture Ingress and Drainage” section 4 for more discussion on this issue and proposed options.

The Building Code deals with ventilation requirements for new builds under Clause G4,[100] and internal moisture is specifically covered in Clause E3.[101]

Regulation 9(1) of the HI Regulations requires every bathroom shall have at least one window that directly opens to the external air unless other adequate means of ventilation are provided to the satisfaction of the local authority.

Regulation 11 of the HI Regulations requires that each habitable room[102] shall be constructed such that windows with an area amounting to not less than one twentieth part of the area of the floor of the room can be opened for the admission of air. Every room that is not a habitable room shall be provided with such window(s) as the local authority may consider necessary for adequate ventilation.

3.1 What level of ventilation is required in rental homes?



Option one (status quo)

Option one is the status quo. Under this option landlords must:

- ensure every bathroom has at least one window that directly opens to the outside air unless other adequate means of ventilation are provided *to the satisfaction of the local authority*
- each habitable room must be constructed such that windows with an area amounting to not less than one twentieth part of the area of the floor of the room can be opened for the admission of air
- every room which is not a habitable room shall be provided with such window or windows *as the local authority may consider necessary* for adequate ventilation.

Advantages

Advantages of option one include:

- landlords incur no cost because there is no change to the current situation
- landlords and tenants do not need to understand any new obligations and government does not incur costs to inform landlords and other stakeholders if no changes are made.

Disadvantages

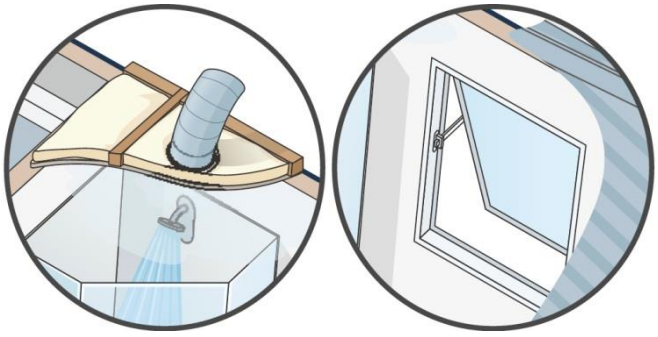
The disadvantages of option one include:

- some rental homes in New Zealand will continue to be damp and mouldy, as ventilation will not be improved

- this option relies on tenants opening windows regularly and for long enough to ventilate rooms without mechanical ventilation. This may not happen for a variety of reasons, including tenant's security concerns about leaving windows open while they are not at home or during the evening and to avoid heat loss. Tenants are likely to experience poor health outcomes from damp and mould

- landlords do not have a clear, certain standard on ventilation to comply with compared to options two and three

- government likely to find it challenging to enforce a less clear standard compared to options two and three.



Option two: openable windows and extract fans in rooms with a bath or shower

Option two requires landlords to install mechanical extract fans (or other similar device that extracts moisture) in indoor rooms that have a shower or bath, in addition to living rooms, dining rooms, kitchens and bedrooms having a window that can be opened for the entry of air. The extract fan must be properly sized for the room it is installed in, properly installed, located in close proximity to the moisture source, well ducted and vented to the outside of the house.

An exemption for certain rental homes could be provided in certain cases where it is not practicable to have an openable window in a room, including:

- if, at the time the home was built, it received building consent even though it did not have an openable window(s) in the relevant location

- if it is not reasonably practicable to create an openable window in the relevant location. Guidance will provide the detail of what is "not reasonably practicable".

Advantages

The advantages of this option include:

- mechanical ventilation in a room with a shower or bath, if used, is likely to reduce indoor moisture in the most common area of visible mould in a rental home and is more likely than the status quo to meet the objective of drier rental homes

- landlords will incur less capital cost to install an extract fan in a bathroom under option two than option three

- tenants who are able to use mechanical ventilation will have a drier, less mouldy home and perhaps less likely to experience poor health outcomes, such as respiratory illnesses.

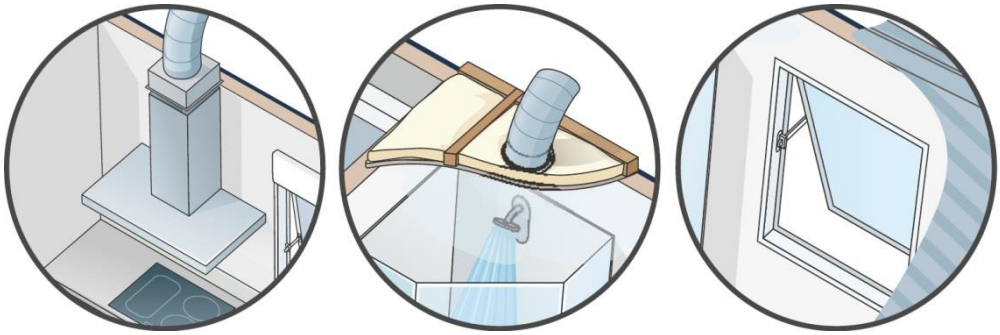
Disadvantages

The disadvantages of this option include:

- research shows 44% of rental homes do not have a bathroom fan so landlords will incur costs to purchase any new ventilation equipment required and properly install and maintain it (e.g. cleaning vent grilles and inspecting ducts). The cost of a bathroom fan is estimated at $50 (low) – $140 (high) including GST plus installation costs at $50 per hour including GST for a builder (2 hours) and $61 per hour including GST for an electrician (1 hour) totalling $211 – $301[103]

- higher administrative cost to government to educate landlords and tenants and ensure compliance with the obligation for optimal ventilation in a rental home than the status quo

- without an extract fan, rooms with an indoor cooktop are more likely to continue to be inadequately ventilated and potentially damp and mouldy.



Option three: openable windows and extract fans in rooms with a bath, shower or indoor cooktop

Option three requires landlords to install mechanical extract fans (or other similar device that extracts moisture) in indoor rooms that have a shower, bath or indoor cooktop to remove moisture vapour and cooking fumes, in addition to living rooms, dining rooms, kitchens and bedrooms having a window that can be opened for the entry of air. The extract fan must be properly sized for the room it is installed in, properly installed, located in close proximity to the moisture source, well ducted and vented to the outside of the house. The same exemption as for option two would apply.

Advantages

Advantages of this option include:

- this option is more likely to achieve the objective of a warm and dry home because it addresses the need for ventilation in rooms with indoor cooktops, compared to option one and two

- mechanical ventilation in rooms with a bath, shower or indoor cooktop, if used, is likely to reduce indoor moisture vapour, damp and mould to create a drier home than options one and two
- tenants who are able to use mechanical ventilation will have a drier, less mouldy rental home and will be less likely to experience poor health outcomes, such as respiratory illnesses.

Disadvantages

The disadvantages of this option include:

- research shows 37% of rental homes do not have a kitchen fan so landlords will incur costs to purchase any new ventilation equipment required and properly install and maintain it (e.g. cleaning vent grilles and inspecting ducts). A kitchen fan is estimated at $50 (low) – $140 (high) including GST with installation costs for a landlord at $50 per hour including GST for a builder (2 hours) and $61 per hour including GST for an electrician (1 hour) totalling $211 – $301, in addition to the cost of installing a bathroom fan if required as set out under option two above

- tenants may not use the equipment, however, information and education can be targeted to educate tenants to overcome this issue

- higher administrative cost to government to educate landlords and tenants and ensure compliance with the obligation for optimal ventilation in a rental home than the status quo.

NZIER's 2018 cost benefit analysis for the ventilation options derived a negative net present value. This is because of the lack of reliable information to quantify the causal chain between the options to remove moisture from rental homes and a reduction in the costs that moisture can cause. NZIER found that the principle quantifiable items are the capital costs for landlords in fitting the equipment, the energy costs for tenants to use the equipment and the producer surplus for suppliers of equipment and energy.[104] The cost benefit analysis could not quantify the benefits of the proposed ventilation options on health, reduced heating costs, school attendance, decreased property maintenance, mental health and subjective well-being and comfort.

However, NZIER found that with all of the ventilation options, although they derive a negative net present value, the options would require relatively little additional benefit to break even.[105] If, for instance, tenants and/or landlords spent upwards of $50 per year countering the effects of excess moisture, and if these options have a material effect on removing that moisture, these measures could break even.[106]

Despite many features not being quantifiable in the cost benefit analysis, there is a large body of evidence linking poor health outcomes, particularly respiratory diseases, to the presence of harmful moulds and mildews (a result of excess dampness and inadequate ventilation).[107]

Option Summary: Appropriate ventilation for landlords to provide	
Option One (status quo)	Every bathroom has at least one window that directly opens to the outside air unless other adequate means of ventilation are provided to the satisfaction of the local authority Each habitable room has at least one window that directly opens to the outside air unless other adequate means of ventilation are provided to the satisfaction of the local authority Every room which is not a habitable room shall be provided with such window or windows as the local authority may consider necessary for adequate ventilation
Option Two	Extractor fans installed in rooms with a *bath or shower*, and living rooms, dining rooms, kitchens, and bedrooms have windows that can be opened for the entry of air unless an exemption applies
Option Three	Extractor fans installed in rooms with a *bath or shower or indoor cooktop*, and living rooms, dining rooms, kitchens, and bedrooms have windows that can be opened for the entry of air unless an exemption applies

Questions for your feedback:	
	Do you support option one, two or three to provide adequate ventilation in rental homes? Please explain.
	What other forms of ventilation should be considered acceptable, or not included in the standard as acceptable? Please explain.
	Do you agree that exemptions should be available for certain rental homes from requiring openable windows?
	Would any of the above proposed options for ventilation prevent future innovation and / or flexibility? If yes, how?

Section 4: Moisture ingress and drainage

This section outlines the existing issues of New Zealand rental homes with moisture ingress and drainage, provides options to help overcome the problem and seeks your feedback.

What is the issue with moisture ingress and drainage in New Zealand rental homes?

Moisture entering a home from outside often contributes to damp and mould issues inside the home in addition to moisture created by everyday occupant activities like cooking and showering – see the Ventilation section 3.

A 2015 study by BRANZ found that mould was visible in over half of New Zealand rental homes.[108] Mould is a key indicator of overall indoor air quality and is potentially harmful to tenants' health.[109] A recent New Zealand study shows a strong association specifically between mould and childhood wheeze.[110]

What causes moisture ingress and inadequate drainage in rental homes?

- **Subfloor[111] moisture entering the home:** this is a major issue in New Zealand rental homes, in particular if there is insufficient subfloor ventilation or no ground moisture barrier[112] under the home (about 76% of rental homes have a subfloor[113]). The moisture can cause damp and decay to the building (including roof spaces).[114,115,116] BRANZ research shows that the amount of moisture rising from the ground under a home can be substantial (40 litres of water per day under a 100 square metre home)[117] even if the soil appears dry.[118] Ground moisture barriers protect against moisture rising from the ground,[119] yet most rental homes with subfloors (81 percent) do not have a ground moisture barrier. An estimated 44 percent of rental homes with subfloors have insufficient subfloor ventilation.[120] Inadequate subfloor ventilation can be caused by blocked vents, plants and shrubs covering vents, clutter in the subfloor that reduces airflow and too few vents in the subfloor walls

- **Leaks:** Rainwater can leak into the home through gaps or holes in a home's roof, walls or windows. Plumbing leaks[121] in or under a home can lead to dampness in the home, building damage and can also worsen subfloor moisture and drainage issues

- **Inefficient drainage:** Moisture can enter into the home if there are broken, blocked, or inadequate gutters, downpipes and drains. Paths and gardens that direct water into subfloor spaces can be significant sources of subfloor moisture that can then evaporate into the home, causing dampness

- **No or failed waterproofing or drainage of concrete floors and in-ground walls:** If a home lacks a moisture barrier under a concrete floor, has no or failed waterproofing of basement in-ground walls or has inadequate drainage around a concrete floor or basement in-ground walls then moisture can enter into the home causing dampness[122]

Existing legislation

The HI Regulations include provisions to protect rental homes against moisture ingress and inefficient drainage.

Regulation 15 of the HI Regulations states that every house shall be free from dampness.[123]

Regulation 14 of the HI Regulations states that every house shall, *to the extent the local authority deems necessary*, be provided with efficient drainage for the removal of storm water, surface water and ground water. Every house shall be provided with gutters, downpipes and drains for the removal of roof water *to the satisfaction of the local authority*. It also provides that timber floors shall have adequate space and vents to ensure proper ventilation to protect the floor from damp and decay.

4.1 How should landlords protect rental homes against moisture entering the home and inadequate drainage?

Option one (status quo)

Under this option, landlords are required to meet their existing legal obligations, including the Residential Tenancies Act and HI Regulations set out above.

Advantages

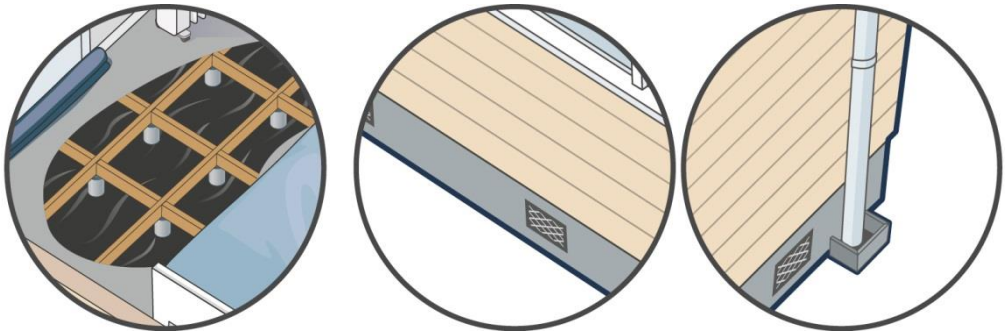
Advantages of option one include:

- landlords would not incur any additional costs because there is no change to the standard
- government will incur fewer administrative costs than other proposed options because there is no change to the standard

Disadvantages

The disadvantages of this option include:

- the overall objective to have drier rental homes is unlikely to be met
- tenants continue to live in damp and mouldy rental homes. This can result in tenants getting ill with avoidable hospitalisations or absences from work or school, and higher energy bills to heat a home. Damp and mouldy homes can also cause damage to tenants' belongings
- government is unlikely to benefit from a reduction in reliance on public health services and lower carbon emissions.



Option two: landlords install a ground moisture barrier if vents are not adequate and drainage must be efficient

Under option two, all landlords would be required to:

- provide efficient pipework or drainage without leaks to remove storm water, surface water, plumbing water and ground water to avoid water pooling around or under the home, from water entering the home

- provide gutters, downpipes, and drains that are open and not blocked and can efficiently remove storm water, surface water, ground water and plumbing water and avoid pooling water around and under the house

- ensure a suspended floor has a ground moisture barrier that covers the soil under the home[124] to protect against moisture ingress and dampness.

This option targets the identified issue of many New Zealand rental homes having substantial subfloor moisture, insufficient subfloor ventilation, inefficient drainage and leaks and inadequate drainage.

Exemption:

A landlord would not need to provide a ground moisture barrier under option two if:

- the rental home has adequate (open and unblocked) subfloor ventilation openings of sufficient size and distribution around the subfloor perimeter to meet the requirements of the relevant New Zealand building standard (currently NZS 3604:2011)

- the rental home is a pole house[125] with an open air space between the floor and the ground under the home; or

- a landlord obtains a certificate from a qualified building surveyor to show that their rental home complies with the standard.

This means that, where a rental home has insufficient access to install a ground moisture barrier, the landlord will need to ensure that, wherever practicable, one of the exemptions above are met.

Guidance

We intend to provide landlords and tenants with clear guidance on what, if any, work would be required to meet the standard and how to assess if their rental home meets the "adequate subfloor ventilation openings" exemption. These requirements would be based on the relevant New Zealand building standard (currently NZS 3604:2011) and any new information since the building standard was published. Guidance could also provide information on insufficient access and a recognised qualified building surveyor.

Advantages

Advantages of option one include:

- the objective to have drier New Zealand rental homes is more likely to be met than the status quo, homes will be less mouldy with less moisture damage. BRANZ research has found ground moisture barriers to be the most effective option at addressing subfloor moisture (more effective than subfloor vents)[126]

- landlords may incur lower maintenance costs because of a drier subfloor space with reduced decay of the floor structure and underfloor insulation

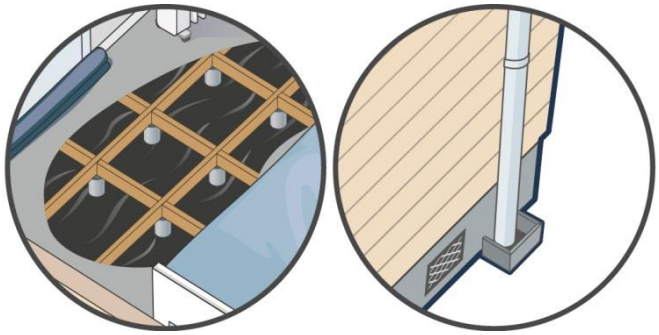
- tenants are likely to benefit from a drier, less damp and mouldy home. A drier, less mouldy home could lead to fewer illnesses and hospitalisations for tenants (including wheeze for children) and less damage to their property

- tenants may experience energy savings if a rental home has reduced moisture levels making it easier to heat.

Disadvantages

The disadvantages of this option include:

- some landlords will incur extra costs depending on the level of work required to provide sufficient ventilation in the subfloor of their rental home. It is estimated that 33% of all rental homes would need to have a ground moisture barrier installed, or, where this is not possible due to insufficient access, additional subfloor vents.[127] A ground moisture barrier installation typically costs about $800 (including GST) per house.[128] Where a rental home has insufficient access to install a ground moisture barrier and requires additional subfloor vents to be installed, the cost will vary highly depending on the number of subfloor vents that need to be added to bring the rental home up to the required standard, and on the materials of the subfloor walls. The cost of installing three additional subfloor vents in a concrete subfloor wall is about $253 including GST.[129] For a 100sqm rental home that only has half as many vents through its concrete subfloor walls than required, it would cost about $1,062 including GST to install the required (12) subfloor vents.



For the CBA, NZIER analysed two options for the moisture ingress standard, including an option for landlords to provide a ground moisture barrier if there are not adequate subfloor vents in their rental homes ("option two") and an option for all landlords to provide a ground moisture barrier even if they have subfloor vents ("option three").[130] NZIER's analysis found installing a moisture barrier only where there are not adequate subfloor vents (option two) to be the more effective alternative. Also, it found that installing a ground moisture barrier would be the least cost choice for houses with accessible subfloors compared to installing additional subfloor vents.

Both options analysed had a benefit cost ratio of 0.08 and yielded a net cost because there is no reliable way to estimate how moisture reduction translates to reductions in costs to health and damage to property.[131] However, option three would have been costlier to implement as it applied to all houses and had a very low marginal benefit. This is for the reason that option three could have led to some houses being fitted with both vents and a ground moisture barrier when one would suffice, incurring cost for negligible benefit.

The cost benefit analysis could not quantify the benefits of the proposed moisture ingress options on health, reduced heating costs, school attendance, decreased property maintenance, mental health and subjective well-being and comfort. However, it showed that if these benefits were greater than $52.40 per year per house affected then the proposed option two would be economical.

Option Summary: Moisture ingress and drainage	
Option One (status quo)	Landlords continue to meet the requirements of the Building Code, Residential Tenancies Act and the Housing Improvement Regulations
Option Two	Landlords provide efficient drainage and guttering, downpipes and drains and ensure that the subfloor has a ground moisture barrier, unless there is already adequate subfloor ventilation

Questions for your feedback	
	Do you support option one or two above to address the problems identified with moisture ingress and inadequate drainage in New Zealand rental homes? Why/Why not?
	Do you think other requirements for moisture ingress and drainage should be included in the standard? If so, what?
	Do you agree with the proposed exemptions? Do you think there are other homes that should also be exempt?
	Would any of the above options inhibit future innovation and/or flexibility? How do you suggest this could be overcome?

Section 5: Draught stopping

This section outlines the existing issue with draughty New Zealand rental homes and provides options to resolve the problem and seeks your feedback on these options.

What is the issue with draughts and their impact on New Zealand rental homes?

New Zealand rental homes are draughty, particularly those built before 1960, which were constructed in a less airtight manner than contemporary homes.[132] Draughts or uncontrolled air flows increase the risk of a cold indoor temperature.

Research from the Department of Public Health at the University of Otago, Wellington on new builds indicates even minor improvements in draught stopping can improve the warmth of homes.[133] The University of Otago's research shows minor draught stop interventions, such as additional sealing strips and fitting draught excluders to exterior doors, can increase the indoor temperature by 1-1.5^{o}C.

Homes need to be well ventilated to keep the air inside fresh and dry. However, gaps or holes in a home can cause draughts and a cold interior. Smaller gaps may not appear problematic but can cumulatively cause a draught issue.

Draughts also make it harder and more expensive for tenants to heat their homes.[134] Homes that are draughty can limit the benefits of improved insulation, heating, and ventilation.

5.1 What is the appropriate level of draught stopping to create warm and dry rental homes?

Option one (status quo):

Currently, regulation 17 of the HI Regulations requires that the materials of which each house is constructed shall be sound, durable and where subject to the effects of the weather, weatherproof, and shall be maintained in such a condition. The walls and ceilings of every habitable room, bathroom, kitchen, kitchenette, hall and stairway shall be sheathed, plastered, rendered or otherwise treated and shall be maintained to the satisfaction of the local authority. Every floor shall be kept in a good state of repair free from crevices, holes and depressions.[135]

Advantages

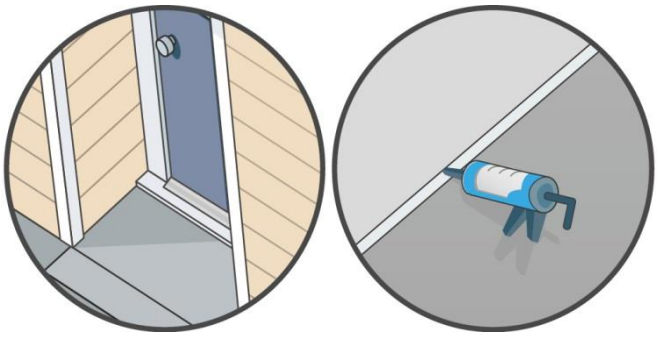
Advantages of option one include:

- landlords will not incur additional costs, as their obligations do not change
- government does not incur significant additional costs to inform and educate, as there is no change to requirements.

Disadvantages

Disadvantages of option one include:

- rental homes remain draughty and cold and the objective to create warm and dry rental homes is not met
- tenants live in homes that lose heat and allow cold air to enter and higher energy bills because these rental homes are likely to cost more to heat
- taxpayers do not benefit if homes require more energy and result in higher carbon emissions[136] and government / taxpayers benefit from less demand on publicly funded services in health and other social support if homes are warmer .[137]



Option two: stop unnecessary gaps or holes that cause noticeable draughts

Option two requires the landlord to stop any unnecessary gaps or holes that cause noticeable draughts and a colder rental home, and:

- are 3 millimetres or greater in and around windows and doors, walls, ceilings, floors and access hatches
- block any decommissioned chimneys and fireplaces.

Under this option, we would publish guidance which sets out examples of gaps or holes that need to be remedied. In some cases, gaps and openings in the external cladding of a building are designed to ventilate and must not be sealed so we expect guidance will be helpful in this area also.

Advantages

Advantages of option two include:

- the objective to achieve warmer, drier rental homes is more likely to be addressed through this option, particularly in comparison to the status quo, because common sources of draughts in rental homes would need to be sealed

- tenants will live in rental homes that are less draughty than the status quo, and tenants are likely to find it easier to heat with lower energy bills and tenants may enjoy better health and other positive social outcomes

- landlords and government will have a flexible and simple standard for draught stopping to comply with. Landlords have flexibility to choose the appropriate measure for their home to stop draughts depending on its age and type

- homes that use less heating can lead to lower atmospheric carbon emissions.

Disadvantages

Disadvantages of option two include:

- landlords may misunderstand the requirements and seal drainage and ventilation openings, causing damage to the home or reduce airflow to the extent that the home is not adequately ventilated

- landlords will incur some cost to meet this standard. The cost benefit analysis assumed that 30% of rental homes will require draught stopping work costed between $124 to $250 including GST per affected rental home for sealant and labour[138]
- government will incur cost to develop and deliver information and advice for landlords on the new standard to ensure it is easily understood and complied with.

The CBA shows that option two for draught stopping would yield a net benefit and a healthy benefit cost ratio of 3.37 on base assumptions. The ratio is the same regardless of what proportion of houses it is applied to, whether 30% of houses fit draught stopping or 100%. The analysis also shows that it would be worthwhile if it can be demonstrated to raise indoor temperatures in a house by 0.28°C or more with a benefit cost ratio of 1.0.[139] The benefit cost ratio would be higher if there is a less frequent replacement cycle or if unquantifiable benefits could be shown to have significant additional value.

The cost benefit analysis could not quantify all benefits from these measures. However, qualitative benefits are likely to result from the proposed draught stopping measure that would create a warmer, more comfortable rental home and could lead to improved attendance at work or school from associated improved physical and mental health and well-being.

Option: Draught stopping	
Option One (status quo)	Landlords are required to ensure walls and ceilings of every habitable room, bathroom, kitchen or kitchenette, hall and stairway shall be sheathed, plastered, rendered or otherwise treated and shall be maintained to the satisfaction of the local authority. Every floor shall be kept in a good state of repair free from crevices, holes and depressions
Option Two	Landlords to stop any unnecessary gaps or holes that cause noticeable draughts and a colder rental home, and: • are 3 millimetres or greater in and around windows and doors, walls, ceilings, floors and access hatches • block any decommissioned chimneys and fireplaces.

Questions for your feedback:	
	Do you support option one or two above to stop draughts and create warm and dry rental homes? Why?
	Do you think other requirements for draught stopping should be included in the standard? If so, what?
	Would any of the above options inhibit future innovation and / or flexibility? If so, how?
	Should the regulations specify any exceptions to this standard? If so, what?

Section 6: Date to comply with the standards

When and how should the healthy homes standards be implemented?

The HHG Act allows for phased implementation of the healthy homes standards[140] between 1 July 2019 and 30 June 2024.

Objectives

Our objectives for the timing to implement the standards include:

- all rental homes in New Zealand can be warmer and drier as soon as possible
- landlords and property managers are given sufficient time and support to understand and comply with the changes. Private and public landlords will need adequate time to check whether their rental home is compliant and will need enough time to procure and install any needed requirements
- tenants, in particular at-risk groups, need the standards implemented as soon as is practically possible
- industry capacity will need to be taken into account (e.g. it may be impacted by other government initiatives such as KiwiBuild)
- the Government has sufficient time to provide advice through information campaigns, develop clearly understood guidance and expand enforcement capacity where necessary
- the implementation timeframe does not restrict flexibility and innovation to meet a higher quality of rental home.

We are seeking feedback through this consultation on what date would be viable to implement the upgrades to rental homes for private landlords and public housing providers given the work and time needed to undertake upgrades.

Option one: comply at start of a new or renewed tenancy

We propose that this requirement could commence on 1 July 2021. This date was chosen to help provide landlords, industry, and government reasonable time to understand the obligations. After 1 July 2021 landlords would have to comply with the standards at 90 days after the time they sign or renew or vary a tenancy.

Providing a 90 day grace period allows landlords reasonable time to improve the rental home and comply with the standards after the previous tenant gives notice to terminate the tenancy.

A periodic tenancy and an ongoing tenancy that does not require a new tenancy agreement to continue would not trigger this requirement. In those cases, landlords would have until 1 July 2024 to comply with the standards. All rental homes in New Zealand would need to comply with the standards by 1 July 2024, or an earlier date could be set in the regulations (e.g. 1 July 2021).

Advantages

Advantages of this option include:

- landlords have time to ensure their rental home complies with the standards when they know the tenancy is ending and the obligation is simple and clear to understand
- landlords may be encouraged to act early as the requirement could commence from 1 July 2021
- some tenants will begin to experience the benefits from improvements to rentals, possibly from 1 July 2021
- industry is likely to have sufficient time to build capacity to meet demand as there will not be a surge in demand close to a single deadline
- government could find some enforcement more straight forward than option three as it can use existing databases, such as the bond database, to identify new or renewed tenancies.

Disadvantages

Disadvantages of this option include:

- landlords do not have the certainty of a single compliance date to plan the improvements and may find it difficult to comply with the new standards if faced with unplanned costs from an unexpected new tenancy or change to the tenancy
- landlords with large portfolios will not as easily be able to plan and undertake an upgrade to minimise cost and ensure suppliers and installers are available
- tenants who are on an existing periodic tenancy that continues over the next five years may have to wait longer to benefit from improvements to their rental home (unless the tenancy agreement is renewed or the landlord chooses to carry out upgrades prior to the deadline)
- industry may experience peak demand when many tenancies start in February.

Option two: a single compliance date

Under option two landlords will need to meet all of the standards by a set date. We propose 1 July 2022. This date was chosen to help provide landlords, industry, and government reasonable time to understand the obligations, build capacity and comply. It could also help to ensure an online tool would be built for the heating standard. At the same time, tenants could also benefit from higher quality housing at an earlier date than if the changes were linked to new tenancy agreement or staggered to a final date of 1 July 2024.

Advantages

Advantages of this option include:

- all rental homes in New Zealand will be warmer and drier by 1 July 2022, which is likely to be earlier than option one and three in some cases
- landlords have a clear and certain date to plan upgrades, consider spreading costs, and meet their obligations. This option is clearer and more certain than options one and three
- tenants can easily understand one set compliance date and ensure compliance.
- government can easily inform and educate about one set date to landlords, tenants, industry and other relevant stakeholders.

Disadvantages

Disadvantages of this option include:

- landlords may decide to defer compliance until close to the compliance deadline and landlords may then not be able to source material or installers due to high levels of demand so there may be a large number of non-compliant landlords
- some tenants may not benefit from improvements until close to the compliance deadline and may continue to live in cold, damp homes for longer
- tenants may not have their leases extended if some landlords wish to complete work in a vacant rental home to become compliant near the deadline for the compliance date, which may put pressure on rental housing in a tight rental market
- industry may suffer from strained capacity if landlords defer compliance until the last minute so installations may be of poor quality or cause safety issues if unqualified installers are relied on due to insufficient industry capacity.

Option three: staggered compliance dates over five years

Option three is to stagger compliance over the five year implementation period. The implementation dates would only be confirmed once decisions are made on the content of the standards. Implementation dates will need to allow a reasonable timeframe for industry to have sufficient resource and staff to scale up and down to meet expected demand from landlords and property managers.

We set out two approaches to staggering compliance dates for the healthy homes standards below.

Sub-option A: compliance date set by healthy homes standards

Each standard has its own implementation date between 1 July 2019 and 1 July 2024. High priority areas could be implemented earlier. For example, landlords could be expected to comply with the draught stopping standard by 1 July 2020, the moisture ingress and drainage standard by 1 July 2021, the ventilation standard by 1 July 2022, the insulation standard by 1 July 2023, and the heating standard by 1 July 2024

Advantages

The advantages of this option include:

- the implementation date for each standard could be tailored to consider factors such as the integrated nature of the home (e.g. the value in insulating a home before heating it), costs to landlords are minimised, tenants benefit from early implementation and industry resource and staffing needs have potential to meet demand
- landlords have certainty on dates to plan to meet requirements and, at the same time, the flexibility to comply with all standards at the same time or stagger it over five years to spread costs and help meet their budget
- tenants would benefit from early implementation of the standards in key areas (e.g. if the heating standard is implemented by 1 July 2020 then tenants would experience a warmer home in two years rather than six years if it was implemented by 1 July 2024)
- industry has the certainty from set dates and time to build adequately trained and experienced staff to help ensure compliance with the standard

- government can focus resource and budget to inform and educate landlords on one area and then move to the next over five years. The date could also be staggered to provide sufficient time to build compliance tools (e.g. the online tool for the heating standard) unlike option one.

Disadvantages
The disadvantages of this option include:

- landlords may decide to defer compliance for each standard until close to the compliance deadline and landlords may then not be able to source material or installers due to high levels of demand so there may be a large number of non-compliant landlords
- tenants in some rental homes may not gain the full benefit of all the standards until 2024 in some cases
- industry may suffer from strained capacity if landlords defer compliance for each standard until the last minute so installations may be of poor quality or cause safety issues if unqualified installers are relied on due to insufficient industry capacity
- government may incur greater cost from advising, informing and enforcing a more complex approach of staggered implementation dates than one set compliance date.

Sub-option B: compliance dates set by location of the rental home
Different compliance dates could be set for rental homes based on their location in New Zealand. The standards, such as for heating and insulation, could be implemented earlier in colder regions of the country, such as the South Island or Central Plateau of the North Island.

Advantages
The advantages of this option include:

- the implementation date for each standard could be tailored to provide the most benefit to tenants
- landlords would have certainty on dates to plan for upgrades and to meet their obligations
- industry would have certainty to plan to build capacity and ensure enough product is available
- government could target education and enforcement activities.

Disadvantages
The disadvantages of this option include:

- landlords and tenants could find an approach that staggers implementation dates by the location of the property more complex to understand and comply with than options one and two
- industry may find an approach that staggers implementation dates by the location of the property challenging to support compliance because activity will be in concentrated areas that may not have the resources and necessary expertise
- government will incur greater cost from advising, informing and enforcing a more complex approach of staggered dates than options one and two.

Option	Implementation
Option One	Landlords must comply with the standards within 90 days of the start or renewal of a tenancy
Option Two	A single date is chosen for when all landlords must comply with the standards
Option Three	The implementation dates are staggered for the standards either by • Standard • Rental home location

Questions for your feedback:	
	Do you support option one, two or three above for the date that landlords need to comply with the standards for their rental homes? Why/why not?
	For option one, do you think 1 July 2021 is the appropriate commencement date? Why / why not? Do you agree landlords should be given a grace period of 90 days between the start of a tenancy and when they need to comply?
	For option two, do you think 1 July 2022 is an appropriate date to allow landlords, industry and government with sufficient time to comply with the standards? If not, which date do you think would be appropriate, and why?
	For option three, which approach do you think is an appropriate way to stagger implementation (by standard or location)? Do you have an alternative approach to staggering implementation that you think we should consider?
	Is there a feasible compliance date option that has not been considered? Please explain

General question for your feedback	
	Do you agree with the assumptions and analysis in the document for the indicative costs and benefits, and our analysis of the advantages and disadvantages?

Section 7: Implementation

7.1 Enforcing the standards

When and how should the healthy homes standards be enforced?

The HHG Act requires all landlords need to comply with the healthy homes standards by 1 July 2024. Some landlords will comply early and some will leave it to the last minute. There will also be landlords who choose not to comply at all.

There are various reasons why landlords may not comply. Landlords, for example, may not understand that the standards apply to them, wrongly believe that their rental home complies with the current requirements or they may believe requirements are too costly. There may also be some landlords who believe their tenants will not raise issue(s) if they do not comply.

Compliance can be pro-actively encouraged through education and incentives. For example, written information and guidance material, seminars that landlords and tenants can attend to learn about the standards and financing options to assist with the costs of compliance, such as the voluntary targeted rates schemes offered by some councils.

Compliance with the standards can also be reactively enforced. The HHG Act includes certain provisions to help enforce the changes related to the healthy homes standards. The Chief Executive of MBIE has the ability to prepare and implement programmes for inspecting premises (including fixtures, fittings and chattels) or facilities.[141]

Regulations may also specify methods for determining whether standards have been complied with and records or other documents that must be retained by a landlord.[142] This could be a landlord submitting documentation to MBIE certifying they are meeting a particular standard.

The standards can also impose requirements for inspection, maintenance, or replacement of things installed or provided at the home. Ongoing maintenance is likely to be needed to ensure the property continues to meet the standards over time. We seek your feedback on maintenance of things installed or provided for particular standards (e.g. heating).

The Government is currently reviewing the enforcement provisions as part of the targeted review of the RTA. This provides an opportunity to consider the provisions for the healthy homes standards, including the type of enforcement action and the size of the penalties. Currently landlords could be liable for damages of up to $4,000 for non-compliance. You can find more information and provide feedback on proposed changes to enforcement under the RTA in the consultation document on MBIE's website: www.mbie.govt.nz

Questions for your feedback	
	What records should a landlord retain to show compliance with each healthy home standard (e.g. R-value certification for the insulation standard)?
	What could be included on the tenancy agreement to show the landlord has complied with each healthy home standard (e.g. a description of the mechanical ventilation supplied in the kitchen and bathroom for the ventilation standard)?

7.2 Online tool to assist landlords comply with the standards

The healthy homes standards can specify methods to determine whether the standards have been complied with. We propose that a formula is used to determine the capacity required for heating devices for a room to achieve the appropriate indoor temperature. The proposed formula is at Appendix 1.[143]

We are also proposing to provide a user friendly online tool to guide landlords on the appropriate device (e.g. heating device) for their rental home to adequately achieve the required indoor room temperature. Tenants could also use the tool to understand what heating device is appropriate for their rental homes.

A landlord, tenant or any other person could input data into a user-friendly online tool to determine the necessary device(s) to achieve the appropriate indoor room temperature for that rental home. For instance, a user could input the home's location, a room's size of the floor, ceiling and walls, a room's insulation level and the number, size and glazing of windows to determine an adequate heating device. Based on the information provided, the online tool would determine the required minimum heating capacity of the heating source that a landlord or tenant would need to install to meet the standard.

Example scenarios (see Appendix 1)

An Auckland landlord of a 1960s three-bedroom home with ceiling and underfloor insulation and single-glazing would need to put one fixed heating device in the living room to reach 18°C or 20°C (see example house two in Appendix 1). A plug-in electric heater would not have sufficient heating capacity for the living room in this scenario. All bedrooms could be adequately heated with plug-in electric heaters.

However, if the same home in Auckland had wall insulation, then a plug-in electric heater would be sufficient to heat the living room to 18°C. To reach 20°C a fixed heating device would be required however.

The same three-bedroom home with wall insulation but based in Christchurch has been calculated to need one fixed heating device in the living room to reach either 18°C or 20°C.

An online tool to assist a landlord to achieve the required indoor temperature has a number of advantages:

- landlords and tenants (and other interested persons) can use a simple, free online tool to work out the necessary requirements under the standard
- the tool will provide advice on requirements tailored to each rental homes' characteristics. Landlords with high performing rental homes may not need to install, for example, any or minimal additional heating if built in such a way that they achieve the required temperature
- the tool could be enabled to let landlords generate a report to use for compliance purposes and include in the tenancy agreement
- tenants would have devices adequately sized (e.g. extractor fans, heating devices) to ensure they have relevant capacity to achieve the required indoor temperature.

Questions for your feedback

What are the most important considerations in developing a tool to help tenants understand and landlords to comply with the heating standard?

7.3 Monitoring and evaluation

MBIE is developing a monitoring and evaluation program to provide information on progress and how well the proposed regulations are meeting the overall objective to establish minimum standards to allow all tenants to live in warm and dry rental homes in New Zealand.

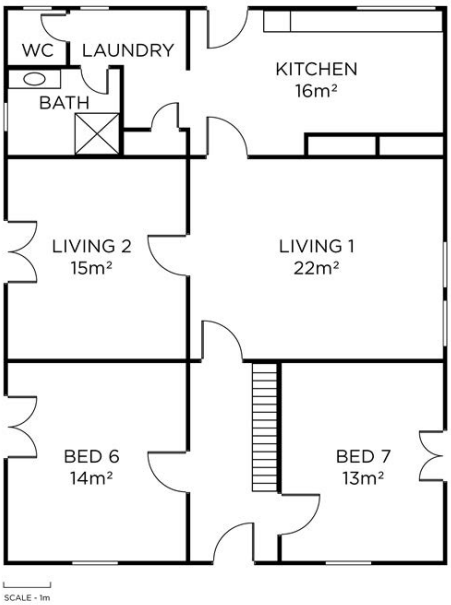
Appendix 1: Scenarios to illustrate what heating could be required in sample houses

Based on the proposed options for heating requirements in Section 1, this appendix presents three sample houses to illustrate what types of heating landlords may be required to provide.

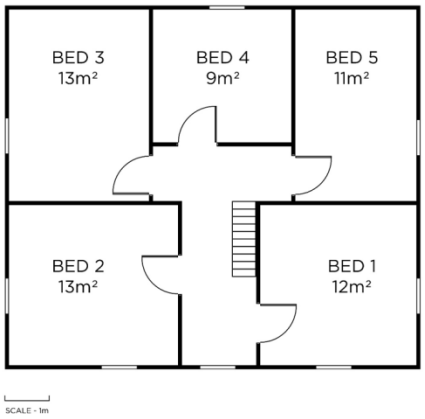
The proposed heater sizing formula that has been used to produce this information is presented at the end of this appendix.

The information in this appendix should be read in conjunction with the information provided in Section 1.

Example 1: Two-storey villa with seven bedrooms and high ceilings



Ground floor



First floor

The following three tables illustrate what heating would be required in each room to be capable of achieving the minimum indoor temperature if the above house was located in the Auckland/Coromandel climate (Table 5), the Wellington climate (Table 6) or the Christchurch/Canterbury climate (Table 7).

The rows in the table provide information on the required heating types for each room.

The columns in the table represent different insulation scenarios. With better insulation, less fixed heating is required, particularly in colder climates.

'Fixed only' means that a fixed form of heating would be required in the relevant room under the relevant insulation and location scenario. This could, for example, be an adequately-sized heat pump, wood burner, pellet burner or flued gas heater.

'Plug-in or fixed' means that the relevant room under the relevant scenario could be adequately heated using a plug-in electric heater (with a maximum capacity of 2.4 kW).

However, alternative fixed forms of heating, such as a heat pump, wood burner, pellet burner or flued gas heater could also be suitable.

Table 5: Required heating types by room for different insulation scenarios if located in Auckland/Coromandel

Room to be heated	Ceiling & underfloor insulation Single-glazing	Ceiling, underfloor and wall insulation Single-glazing	Ceiling, underfloor and wall insulation Double-glazing
Living 1	fixed only	fixed only	fixed only
Bed 1	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 2	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 3	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 4	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 5	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 6	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 7	plug-in or fixed	plug-in or fixed	plug-in or fixed

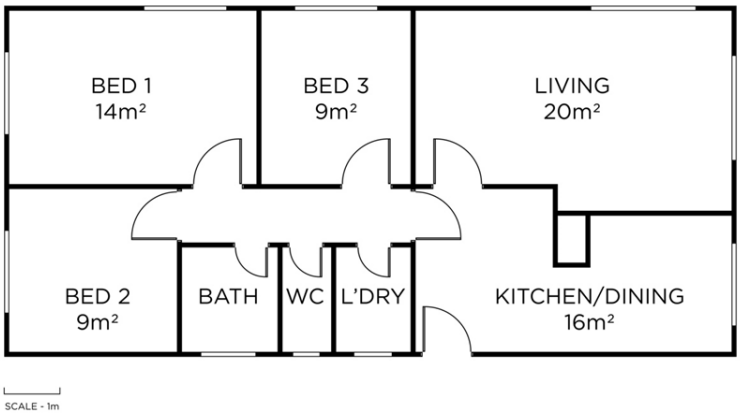
Table 6: Required heating types by room for different insulation scenarios if located in Wellington

Room to be heated	Ceiling & underfloor insulation Single-glazing	Ceiling, underfloor and wall insulation Single-glazing	Ceiling, underfloor and wall insulation Double-glazing
Living 1	fixed only	fixed only	fixed only
Bed 1	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 2	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 3	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 4	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 5	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 6	fixed only	plug-in or fixed	plug-in or fixed
Bed 7	fixed only	plug-in or fixed	plug-in or fixed

Table 7: Required heating types by room for different insulation scenarios if located in Christchurch/Canterbury

Room to be heated	Ceiling & underfloor insulation Single-glazing	Ceiling, underfloor and wall insulation Single-glazing	Ceiling, underfloor and wall insulation Double-glazing
Living 1	fixed only	fixed only	fixed only
Bed 1	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 2	fixed only	plug-in or fixed	plug-in or fixed
Bed 3	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 4	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 5	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 6	fixed only	fixed only	plug-in or fixed
Bed 7	fixed only	fixed only	plug-in or fixed

Example 2: 1960s state house with three bedrooms



The following three tables illustrate what heating would be required in each room to be capable of achieving the minimum indoor temperature if the above house was located in the Auckland/Coromandel climate (Table 8), the Wellington climate (Table 9) or the Christchurch/Canterbury climate (Table 10)

Table 8: Required heating types by room for different insulation scenarios if located in Auckland/Coromandel

Room to be heated	**Ceiling & underfloor insulation Single-glazing**	**Ceiling, underfloor and wall insulation Single-glazing**	**Ceiling, underfloor and wall insulation Double-glazing**
Living	fixed only	plug-in or fixed (if heated to 18°C) fixed only (if heated to 20°C)	plug-in or fixed
Bed 1	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 2	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 3	plug-in or fixed	plug-in or fixed	plug-in or fixed

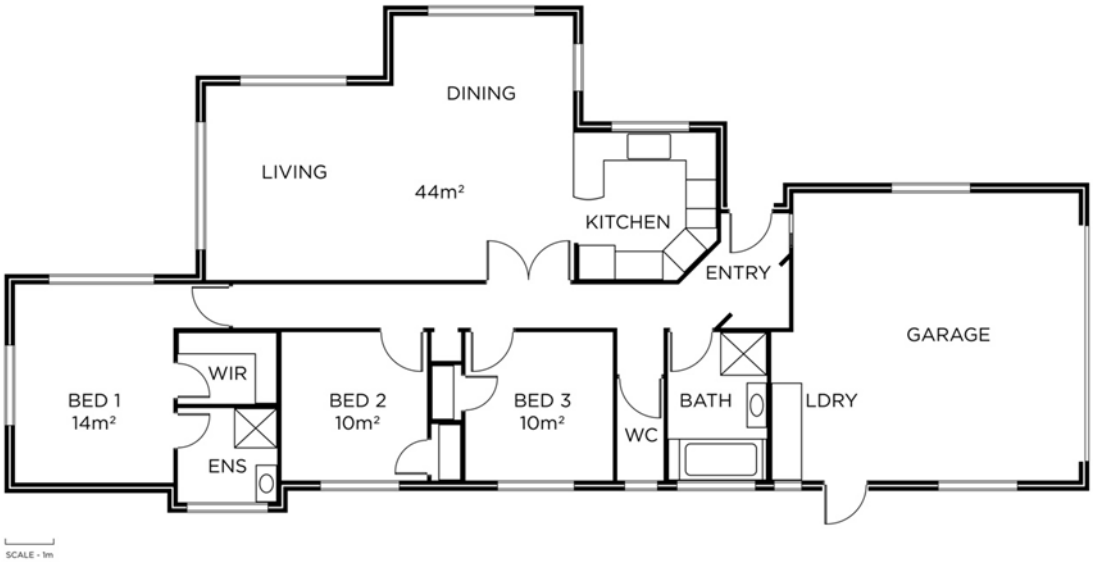
Table 9: Required heating types by room for different insulation scenarios if located in Wellington

Room to be heated	Ceiling & underfloor insulation Single-glazing	Ceiling, underfloor and wall insulation Single-glazing	Ceiling, underfloor and wall insulation Double-glazing
Living	fixed only	fixed only	fixed only
Bed 1	fixed only	plug-in or fixed	plug-in or fixed
Bed 2	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 3	plug-in or fixed	plug-in or fixed	plug-in or fixed

Table 10: Required heating types by room for different insulation scenarios if located in Christchurch/Canterbury

Room to be heated	Ceiling & underfloor insulation Single-glazing	Ceiling, underfloor and wall insulation Single-glazing	Ceiling, underfloor and wall insulation Double-glazing
Living	fixed only	fixed only	fixed only
Bed 1	fixed only	plug-in or fixed	plug-in or fixed
Bed 2	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 3	plug-in or fixed	plug-in or fixed	plug-in or fixed

Example 3: Modern three-bedroom home with large open plan living area



The following three tables illustrate what heating would be required in each room to be capable of achieving the minimum indoor temperature if the above house was located in the Auckland/Coromandel climate (Table 11), the Wellington climate (Table 12) or the Christchurch/Canterbury climate (Table 13).

Table 11: Required heating types by room for different insulation scenarios if located in Auckland/Coromandel

Room to be heated	Ceiling & underfloor insulation Single-glazing	Ceiling, underfloor and wall insulation Single-glazing	Ceiling, underfloor and wall insulation Double-glazing
Living/Dining/Kitchen	fixed only	fixed only	fixed only
Bed 1	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 2	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 3	plug-in or fixed	plug-in or fixed	plug-in or fixed

Table 12: Required heating types by room for different insulation scenarios if located in Wellington

Room to be heated	Ceiling & underfloor insulation Single-glazing	Ceiling, underfloor and wall insulation Single-glazing	Ceiling, underfloor and wall insulation Double-glazing
Living/Dining/Kitchen	fixed only	fixed only	fixed only
Bed 1	fixed only	plug-in or fixed	plug-in or fixed
Bed 2	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 3	plug-in or fixed	plug-in or fixed	plug-in or fixed

Table 13: Required heating types by room for different insulation scenarios if located in Christchurch/Canterbury

Room to be heated	Ceiling & underfloor insulation Single-glazing	Ceiling, underfloor and wall insulation Single-glazing	Ceiling, underfloor and wall insulation Double-glazing
Living/Dining/Kitchen	fixed only	fixed only	fixed only
Bed 1	fixed only	plug-in or fixed	plug-in or fixed
Bed 2	plug-in or fixed	plug-in or fixed	plug-in or fixed
Bed 3	plug-in or fixed	plug-in or fixed	plug-in or fixed

Proposed formula for calculating the required heater size of a space

The below formula is proposed to be implemented in a user-friendly online tool to enable landlords, tenants or any other person, to determine the required capacity of heating devices for achieving the required indoor temperature in rental homes. See Sections 1.2 and 7.2.

Design heat load of the heated space

$$HL = HL_T + HL_V + HL_{hu}$$

where

HL	design heat load of the heated space [W]
HL_T	design transmission heat loss of the heated space [W]
HL_V	design ventilation heat loss of the heated space [W]
HL_{hu}	additional heating-up power [W]

Design transmission heat loss

$$HL_T = (A_{ceiling,e} / R_{ceiling,e} + A_{wall,e} / R_{wall,e} + A_{floor,e} / R_{floor,e} + A_{glazing} / R_{glazing} + A_{skylight} / R_{skylight} + (A_{ceiling,int} / R_{ceiling,int} + A_{wall,int} / R_{wall,int} + A_{floor,int} / R_{floor,int}) * f_{ia}) * (T_{int} - T_e)$$

where

$A_{ceiling,e}$	area of the ceiling of the heated space that forms part of the building's thermal envelope (e.g. ceiling directly below a roof space, or roof)
$A_{wall,e}$	area of the wall(s) of the heated space that form part of the building's thermal envelope (e.g. exterior walls or walls to unheated spaces such as a garage)
$A_{floor,e}$	area of the floor of the heated space that forms part of the building's thermal envelope (e.g. floor directly above outside air, subfloor space or ground)
$A_{glazing}$	area of the glazing of the heated space that forms part of the building's thermal envelope (e.g. windows)
$A_{skylight}$	area of any skylights in the heated space
$A_{ceiling,int}$	area of any ceiling of the heated space adjacent to other spaces within the building's thermal envelope (e.g. ceiling of a downstairs room in a two-storey building)
$A_{wall,int}$	area of any internal wall(s) of the heated space adjacent to other spaces within the building's thermal envelope (e.g. internal walls to adjacent rooms)
$A_{floor,int}$	area of any floor of the heated space adjacent to other spaces within the building's thermal envelope (e.g. floor of an upstairs room in a two-storey building)
$R_{ceiling,e}$	construction R-value of the ceiling of the heated space that forms part of the building's thermal envelope
$R_{wall,e}$	construction R-value of the wall(s) of the heated space that form part of the building's thermal envelope (e.g. exterior walls or walls to unheated spaces such as a garage)

$R_{floor,e}$	construction R-value of the floor of the heated space that forms part of the building's thermal envelope (e.g. floor directly above outside air, subfloor space or ground)
$R_{glazing}$	construction R-value of the glazing of the heated space that forms part of the building's thermal envelope (e.g. windows)
$R_{skylight}$	construction R-value of any skylights in the heated space
$R_{ceiling,int}$	construction R-value of any ceiling of the heated space adjacent to other spaces within the building's thermal envelope (e.g. ceiling of a downstairs room in a two-storey building)
$R_{wall,int}$	construction R-value of any internal wall(s) of the heated space adjacent to other spaces within the building's thermal envelope (e.g. internal walls to adjacent rooms
$R_{floor,int}$	construction R-value of any floor of the heated space adjacent to other spaces within the building's thermal envelope (e.g. floor of an upstairs room in a two-storey building)
$f_{ia} = 0.5$	temperature adjustment factor for building elements to adjacent spaces within the thermal envelope
T_{int}	internal design temperature [^{o}C] (e.g. 18 or 20^{o}C)
T_e	external design temperature dependent on climatic region [^{o}C]

Design ventilation heat loss

where

$H_{LV} = V_{room} * n * \rho_a * c_{p,a} * (T_{int} - T_e)$

V_{room}	internal volume of space to be heated [m^3]
$n = 1.0$	assumed air change rate of space to be heated [h^{-1}]
$\rho_a * c_{p,a} = 0.34$	density of air * specific heat of air [Wh / (m^3 K)]

Additional heating-up power

where

$HL_{hu} = A_{room} * f_{hu}$

A_{room}	floor area of room to be heated [m^2]
$f_{hu} = 40$	specific-heating up power [W/m^2]

References

[1] Section 6 of the Healthy Homes Guarantee Act 2017 to replace section 138B(1) of the RTA.
[2] Section 6 of the Healthy Homes Guarantee Act 2017, which will insert a new section 138B(2) into the Residential Tenancies Act 1986.
[3] Section 6 of the Healthy Homes Guarantee Act 2017, which will insert a new section 138B(2) into the Residential Tenancies Act 1986.
[4] Section 6 and the Schedule of the Healthy Homes Guarantee Act 2017, which will insert new section 138B(5) and new Part 2 of Schedule 1AA into the Residential Tenancies Act 1986.
[5] Statistics New Zealand estimate 588,700 households in private occupied dwellings, as at quarter ended June 2018.
[6] White, V., Jones, M., Cowan, V., & Chun, S. B. (2015). House Condition Survey: Comparison of House Condition by Tenure. Study Report SR370. BRANZ Ltd, p. ii, p15-16, 24, 26.
[7] Witten, K.,Wall , M.,Carroll, P., Telfar-Barnard, L., Asiasiga, L., Graydon-Guy, T., Huckle, T. & Scott, K.(2017).The New Zealand Rental Sector. Study Report ER22.BRANZ Ltd & Massey University SHORE and Whariki Research Centre, p7.
[8] White, V. Jones, M., (2017) Warm, dry, healthy? Insights from the 2015 House Condition Survey on insulation, ventilation, heating and mould in New Zealand houses. SR372,. BRANZ Ltd. piii.
[9] White, V., Jones, M., Cowan, V., & Chun, S. B. (2015). House Condition Survey: Comparison of House Condition by Tenure. Study Report SR370. BRANZ Ltd, p ii.
Of 560 houses assessed 32% of rental properties as being 'poorly maintained' compared with 14% of owner-occupied housing; BRANZ, 2010 House Condition Survey – Condition Comparison by Tenure, 2012.
[10] Witten, K.,Wall , M.,Carroll, P., Telfar-Barnard, L., Asiasiga, L., Graydon-Guy, T., Huckle, T. & Scott, K.(2017).The New Zealand Rental Sector. Study Report ER22.BRANZ Ltd and Massey University SHORE and Whariki Research Centre, p8
The median income of tenants was in the $60-70,000 band, below the New Zealand median of $76,000
[11] Telfar Barnard, L. F. (2010). Home truths and cool admissions: New Zealand housing attributes and excess winter hospitalization (University of Otago).
[12] Telfar Barnard, L. F. (2010). Home truths and cool admissions: New Zealand housing attributes and excess winter hospitalization (University of Otago).
[13] Hirvonen, M. R., Huttunen, K., & Roponen, M. (2005). Bacterial strains from moldy buildings are highly potent inducers of inflammatory and cytotoxic effects. Indoor Air,15(s9), 65-70.
[14] Ormandy, D. Ezratty, V.(2012). Health and thermal comfort: From WHO guidance to housing strategies, Energy Policy 49 (2012), p. 118.
[15] Wilkinson, D. (1999).Poor housing and ill health: a summary of research evidence. Scottish Office. Central Research Unit.
[16] WHO Regional Office for Europe. 2009. Guidelines for Indoor Air Quality; Dampness and Mould. Copenhagen: WHO.
[17] Ormandy, D. Ezratty, V., Health and thermal comfort: From WHO guidance to housing strategies, Energy Policy 49 (2012), p. 120.
[18] Marmot, M., Geddes, I., Bloomer, E., Allen, J., & Goldblatt, P. (2011). The health impacts of cold homes and fuel poverty. London: Marmot Review Team. p11.
[19] Statistics New Zealand (2015) Inside Auckland 2013 – 2015: A profile of people and households in the Auckland region. Wellington: Statistics New Zealand. p19.
Nationally, 33 percent of households now rent a home and over a third of households rent in Auckland and a significant portion of these households (58 percent) in Auckland are on a low-income
[20] Statistics New Zealand (2017) Investigating different measures of energy hardship in New Zealand. Wellington: Statistics New Zealand p5.
The study found that just under one-third of households experienced one or more hardship indicators.
[21] Howden-Chapman, P., Viggers, H., Chapman, R., O'Sullivan, K., Barnard, L. T., & Lloyd, B. (2012). Tackling cold housing and fuel poverty in New Zealand: a review of policies, research, and health impacts. Energy Policy,49, p135-136.

[22] Statistics New Zealand (2013). How will New Zealand's ageing population affect the property market? Wellington: Statistics New Zealand p6.
[23] Statistics New Zealand (2016) Changes in home-ownership patterns 1986-2013: Focus on Maori and Pacific people. Wellington: Statistics New Zealand. p31.
[24] World Health Organization, (1987), Health Impact of Low Indoor Temperatures: Report on a WHO meeting Copenhagen 11-14 November 1985. Copenhagen: WHO.
[25] Howden-Chapman, P., Viggers, H., Chapman, R., O'Sullivan, K., Barnard, L. T., & Lloyd, B. (2012). Tackling cold housing and fuel poverty in New Zealand: a review of policies, research, and health impacts. Energy Policy,49, p135-136
[26] Kwon, H. J., & Jang, M. (2017). Housing quality, health and fuel poverty among US seniors. Indoor and Built Environment, 26(7), p. 953.
During 2006-2010 in the United States, about 1250 residents died every year because of cold weather. In England, about 30,000 excess deaths occurred in 2008. About 80% of the deaths were caused by cardiovascular and respiratory diseases, 33% of those deaths were caused by cold homes and fuel poverty.
[27] Statistics New Zealand (2016) Changes in home-ownership patterns 1986-2013: Focus on Maori and Pacific people. Wellington: Statistics New Zealand. p30.
In 1986, around half of Maori children lived in an owner-occupied dwelling but by 2013, the proportion was only 39%.
[28] World Health Organization, (1987), Health Impact of Low Indoor Temperatures: Report on a WHO meeting Copenhagen 11-14 November 1985. Copenhagen: WHO, p. 2.
[29] Oliver J, Foster T, Kvalsvig A, Williamson DA, Baker MG, Perse N. (2017). Risk of rehospitalisation and death for vulnerable New Zealand children, Archives of Diseases in Childhood. 103(4), 327-334.
The Ministry of Health has labelled some diseases 'Housing-Sensitive Hospitalisations' for which approximately 6,000 children are admitted each year. These children have been found to be 3.6 times more likely to be re-hospitalised and 10 times more likely to die in the following 10 years.
[30] Statistics New Zealand (2013) Disability and housing conditions: 2013, Wellington: Statistics New Zealand. p2.
[31] Statistics New Zealand (2013) Disability and housing conditions: 2013, Wellington: Statistics New Zealand. p7.
24 percent of disabled people living in rental homes reported both cold and dampness, compared with 15 percent of non-disabled renters.
[32] Statistics New Zealand Census data 2013; Europeans have the higher homeownership rate at 57% compared with Maori at 28% and Pacific Island peoples at 19% as at 2013.
[33] See Article 11 of the International Covenant on Civil and Political Rights; Article 25 of the Universal Declaration of Human Rights recognises the right to housing as part of the right to an adequate standard of living.
[34] Section 6 of the Healthy Homes Guarantee Act 2017 which will insert a new section 138B of the Healthy Homes Guarantee Act.
[35] Section 6 of the Healthy Homes Guarantee Act 2017 which will insert a new section 138B(2)(c) of the Residential Tenancies Act.
[36] World Health Organization, (1987), Health Impact of Low Indoor Temperatures: Report on a WHO meeting Copenhagen 11-14 November 1985. Copenhagen: WHO.
[37] BRANZ, (2010), Energy Use in New Zealand Households: Final Report on the Household Energy End-use Project. BRANZ Study Report SR 221: the Household Energy End-Use Project http://www.branz.co.nz/cms_show_download.php?id=a9f5f2812c5d7d3d53fdaba15f2c14d591749353.
[38] Aylin et al, Temperature, housing, deprivation and their relationship to excess winter mortality in Great Britain, 1986–1996 (2001); Howden-Chapman, P., et al. (2008), http://www.bmj.com/content/337/bmj.a1411.full; Evaluation of HNZC Healthy Housing programme, http://www.hnzc.co.nz/publications/the-healthy-housing-programme-outcomes-evaluation; Public Health England, Minimum home temperature thresholds for health in winter: A systematic literature review (2014); Tapkiklis, P. Phipps, R., Indoor Air Quality in New Zealand Homes and Schools. (2017), p70; Trenholm, A. Vogel, A. Lennon, D. McBride, C. Stewart, J. Best, E. Mason, H. Percival, T., Household

characteristics of children under 2 years admitted with lower respiratory tract infections in Counties Manukau, South Auckland in The New Zealand Medical Journal Vol. 125 No. 1367 (2012), p18; The Marmot Review Team (2011). The Health Impacts of Cold Homes and Fuel Poverty, p27.
[39] WHO Regional Office for Europe. 2009. Guidelines for Indoor Air Quality; Dampness and Mould. Copenhagen: WHO.
[40] White, V. Jones, M., (2017) Warm, dry, healthy? Insights from the 2015 House Condition Survey on insulation, ventilation, heating and mould in New Zealand houses. SR372. BRANZ Ltd. p26.
Two percent had no form of heating at all.
[41] White V, Jones M. (2017). Warm, dry, healthy? Insights from the 2015 House Condition Survey on insulation, ventilation, heating and mould in New Zealand houses. SR372, p. 25-39.
[42] Energywise, https://www.energywise.govt.nz/at-home/heating-and-cooling/types-of-heater/#runningcosts: portable unflued gas heaters are the most expensive form of heating and release toxic gases and large amounts of water vapour. They are also a fire risk. Portable electric heaters are more expensive to run than most other heating options and their heat output is lower compared to most other heater types.
[43] White, V. Jones, M., (2017) Warm, dry, healthy? Insights from the 2015 House Condition Survey on insulation, ventilation, heating and mould in New Zealand houses. SR372,. BRANZ Ltd.
[44] Regulation 6 of the Housing Improvement Regulations.
[45] NZIER (2018) *Cost benefit analysis for healthy homes standards*, p. 21-22.
[46] Sourced from on-line search of retail websites of Bunnings and Mitre 10.
[47] NZIER (2018) *Cost benefit analysis for healthy homes standards*, p. 20-22.
[48] NZIER (2018) *Cost benefit analysis for healthy homes standards*, p. 20-22.
[49] NZIER (2018) *Cost benefit analysis for healthy homes standards*, p. 20-22.
[50] WHO, (1987), Health Impact of Low Indoor Temperatures: Report on a WHO meeting Copenhagen 11-14 November 1985. Copenhagen: WHO
[51] Section 6 of the Healthy Homes Guarantee Act 2017 which will insert a new section 138B of the Residential Tenancies Act.
[52] White V, Jones M (2017) Warm, dry, healthy? Insights from the 2015 House Condition Survey on insulation, ventilation, heating and mould in New Zealand houses. SR372, p. 27-29.
[53] NZIER (2018) *Cost benefit analysis for healthy homes standards*, p. 19.
[54] All electric heaters except for heat pumps run at 100% efficiency. For every one kilowatt of electricity they use one kilowatt of heat energy is generated. Heat pumps are electric heaters but are more efficient (generally about 300% efficient), for every one kilowatt of electricity used about three kilowatts of heat is generated.
[55] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 42.
[56] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 20 – 21 and 42.
[57] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 42.
[58] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 15.
[59] NZIER (2010) available at: https://nzier.org.nz/project/review-of-lpg-cabinet-heaters/
[60] White, V. Jones, M., (2017) Warm, dry, healthy? Insights from the 2015 House Condition Survey on insulation, ventilation, heating and mould in New Zealand houses. SR372,BRANZ Ltd
[61] Part 2 of Residential Tenancies (Smoke Alarms and Insulation) Regulations 2016.
[62] BRANZ. (2012). Building Basics: Insulation. BRANZ Ltd.
[63] Regulation 11 and 14 of the *Residential Tenancies (Smoke Alarms and Insulation) Regulations 2016*.
[64] Regulations 11 and 14 of the *Residential Tenancies (Smoke Alarms and Insulation) Regulations 2016*.
[65] New Zealand Standard NZS 4246:2016 (Energy efficiency – Installing bulk thermal insulation in residential buildings).
[66] Regulation 24 of the *Residential Tenancies (Smoke Alarms and Insulation) Regulations 2016;* 2016/001: ban on installation and/or repair of foil insulation in residential buildings with an existing electrical installation at https://www.building.govt.nz/assets/Uploads/building-code-compliance/warnings-bans/201601-Foil-insulation-ban.pdf.
[67] Regulations 18 to 21 of the *Residential Tenancies (Smoke Alarms and Insulation) Regulations 2016*.

[68] Grimes, A., Denne, T., Howden-Chapman, P., Arnold, R., Telfar-Barnard, L., Preval, N., & Young, C. (2011). Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme. Wellington: Motu, University of Otago- Wellington & Victoria University- Wellington; Telfar-Barnard, L., Preval, N., Howden-Chapman, P., (2011). The impact of retrofitted insulation and new heaters on health services utilisation and costs, pharmaceutical costs and mortality. Wellington.
[69] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 42.
[70] Grimes, A., Denne, T., Howden-Chapman, P., Arnold, R., Telfar-Barnard, L., Preval, N., & Young, C. (2011). Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme. Wellington: Motu, University of Otago- Wellington & Victoria University- Wellington.
[71] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. iii and p. 15 - 17.
[72] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. iii and p. 17.
[73] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 17.
[74] The 2001 Building Code insulation standard increased the R-value of floor insulation for all climate zones from 0.9 to 1.3 but in practice the methods and products for underfloor insulation did not change. Increasing to R1.3 would not require additional properties to upgrade their underfloor insulation presuming the underfloor insulation is not damaged, complete and secure.
[75] Grimes, A., Denne, T., Howden-Chapman, P., Arnold, R., Telfar-Barnard, L., Preval, N., & Young, C. (2011). Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme. Wellington: Motu, University of Otago- Wellington & Victoria University- Wellington.
[76] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 17.
[77] Telfar Barnard, L & Preval, N (2018) Healthy Homes Guarantee Standard Cost Benefit Input: Warm Up New Zealand Programme evaluation rental sector sub-analysis: differences in health events and costs by existing insulation status; Housing and Health Research Programme, University of Otago: Department of Public Health, Wellington, May 2018.
[78] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 17.
[79] Energy Efficiency and Conservation Authority, *Warm Up New Zealand Programme* 2017 average cost of ceiling top up including GST.
[80] NZ4246: 2016.
[81] Grimes, A., Denne, T., Howden-Chapman, P., Arnold, R., Telfar-Barnard, L., Preval, N., & Young, C. (2011). Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme. Wellington: Motu, University of Otago- Wellington & Victoria University- Wellington.
[82] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 17.
[83] Telfar Barnard, L & Preval, N (2018) Healthy Homes Guarantee Standard Cost Benefit Input: Warm Up New Zealand Programme evaluation rental sector sub-analysis: differences in health events and costs by existing insulation status; Housing and Health Research Programme, University of Otago: Department of Public Health, Wellington, May 2018.
[84] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 17.
[85] Guidance for assessing “reasonable condition” of insulation under the current 2016 regulations can be found on the Tenancy Services website: https://www.tenancy.govt.nz/assets/Uploads/Insulation-requirements.pdf
[86] Guidance for assessing “reasonable condition” of insulation under the current 2016 regulations can be found on the Tenancy Services website: https://www.tenancy.govt.nz/assets/Uploads/Insulation-requirements.pdf
[87] Residential Tenancies (Smoke Alarms and Insulation) Regulations 2016, regulation 17.
[88] Section 6 of the Healthy Homes Guarantee Act 2017 which will insert a new section 138B(5) into the Residential Tenancies Act.
[89] White, V. Jones, M. (2017). Warm, dry, healthy? Insights from the 2015 House Condition Survey on insulation, ventilation, heating and mould in New Zealand houses. Study Report SR372. BRANZ Ltd.
[90] Braubach, M., & World Health Organization. (2011). Environmental burden of disease associated with inadequate housing: a method guide to the quantification of health effects of selected housing risks in the WHO European Region. P7
[91] Heseltine, E., & Rosen, J. (2009). WHO guidelines for indoor air quality: dampness and mould. WHO Regional Office Europe

[92] McNeil, S. Plagman, M. McDowall, P, and Bassett, M. (2015) The role of ventilation in managing moisture inside New Zealand homes. Study Report SR341. BRANZ Ltd. p4.
[93] White, V. Jones, M. (2017) Warm, dry, healthy? Insights from the 2015 House Condition Survey on insulation, ventilation, heating and mould in New Zealand houses. Study Report SR372. BRANZ Ltd. p19, 21
[94] Plagmann, M. (2016) New home, old habits. Build 156. BRANZ Ltd p 47
[95] McDowall, P. (2017) Open windows for dry home. Build 158. BRANZ Ltd
[96] White, V. Jones, M. Cowan, V. Chun, S. (2017). BRANZ 2015 House Condition Survey: Comparison of house condition by tenure. Study Report SR370. BRANZ Ltd. p25.
[97] White, V. BRANZ information provided to MBIE (27 Feb 2018): Analysis of the 2015/16 House Condition Survey Data.
[98] White, V. Jones, M. (2017). Warm, dry, healthy? Insights from the 2015 House Condition Survey on insulation, ventilation, heating and mould in New Zealand houses . Study Report SR372. BRANZ Ltd. p57.
[99] White, V. Jones, M. (2017). Warm, dry, healthy? Insights from the 2015 House Condition Survey on insulation, ventilation, heating and mould in New Zealand houses. Study Report SR372. BRANZ Ltd. p42.
[100] Clause G4 of the Building Code is available at https://www.building.govt.nz/. Clause G4 requires that spaces in buildings are provided with adequate ventilation consistent with their maximum occupancy and intended use so that cooking fumes and odours and moisture from laundering, utensil washing, bathing and showering can be removed from the spaces in which it is generated. The Acceptable Solution for this (G4/AS1) allows ventilation to be provided by natural ventilation (e.g. windows), mechanical ventilation or a combination of natural and mechanical ventilation.
[101] Clause E3 of the Building Code is available at https://www.building.govt.nz/. Clause E3 requires that buildings are constructed to avoid fungal growth and excessive moisture and requires and adequate ventilation in all habitable spaces, bathrooms, laundries and other spaces where moisture may be generated or accumulate that complies with G4/AS1.
[102] Any room used or intended to be used or, in the opinion of the local authority, is capable of being used as a living room, dining room, sitting room or bedroom and includes a kitchen having a floor area of 80 square feet or more but does not include a room constructed and used as a garage.
[103] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 26.
[104] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 27-29.
[105] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 28.
[106] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 28.
[107] Heseltine, E., & Rosen, J. (2009). WHO guidelines for indoor air quality: dampness and mould. WHO Regional Office Europe
[108] White, V. Jones, M. (2017). Warm, dry, healthy? Insights from the 2015 House Condition Survey on insulation, ventilation, heating and mould in New Zealand houses. Study Report SR372. BRANZ Ltd. p41
[109] Heseltine, E., & Rosen, J. (Eds.). (2009). WHO guidelines for indoor air quality: dampness and mould. WHO Regional Office Europe p. 93.
[110] Shorter, C., Crane, J., Pierse, N., Barnes, P., Kang, J., Wickens, K., ... & Howden-Chapman, P. (2017). Indoor visible mold and mold odour are associated with new-onset childhood wheeze in a dose dependent manner. Indoor air., p. 6-14.
[111] A “subfloor space” is the air space under the house between the floor and the ground.
[112] A ground cover is a plastic film (usually black polythene) installed on the ground under houses to prevent ground moisture from evaporating into the subfloor space.
[113] White, V. Jones, M. (2017). Warm, dry, healthy? Insights from the 2015 House Condition Survey on insulation, ventilation, heating and mould in New Zealand houses. Study Report SR372. BRANZ Ltd. Figure 3 suggests that 24% of rentals had a concrete slab and no subfloor.
[114] Trethowen H.A., Middlemass G. (1988). A survey of moisture damage in southern New Zealand buildings. Study Report SR007.BRANZ Ltd.
[115] White, V., Jones, M., Cowan, V., & Chun, S. B. (2015). House Condition Survey: Comparison of House Condition by Tenure. Study Report SR370. BRANZ Ltd,.

[116] White, V. BRANZ information provided to MBIE (27 Feb 2018): Analysis of the 2015/16 House Condition Survey data. The survey found that 12% of rental properties had water ponding under the house.
[117] McNeill, S. (2015). BRANZ Build 149 August/September 2015: Ventilation and subfloors.
[118] Trethowen H.A. (1988): A survey of subfloor ground evaporation rates. BRANZ Study Report SR13. BRANZ Ltd.
[119] McNeil S, Li Z, Cox-Smith I, Marston N. (2016): Managing subfloor moisture, corrosion and insulation performance. BRANZ study report SR354. BRANZ Ltd.
[120] White, V. BRANZ information provided to MBIE (27 Feb 2018), Analysis of the 2015/16 House Condition Survey data.
[121] Plumbing water can include tap and sewerage water.
[122] White, V. BRANZ information provided to MBIE (22 Mar 2018) based on analysis of the 2015/16 House Condition Survey data. In the survey, about 1 in 10 rental homes had a basement. About 1 in 5 of these rental homes (with basement) had signs of leak/damp in the basement.
[123] Regulation 15 of the Housing Improvement Regulations 1947.
[124] The ground cover (also called on-ground vapour barrier) would need to be installed to New Zealand Standard NZS 4246, available at: www.tenancy.govt.nz
[125] A pole house has a suspended floor that is supported by long piles.
[126] McNeil. S, Li Z, Cox-Smith I, Marston, N (2016): Managing subfloor moisture, corrosion and insulation performance, BRANZ study report SR354.
[127] White, V. BRANZ information provided to MBIE (27 Feb 2018). Analysis of the 2015/16 House Condition Survey data.
[128] Assuming a cost of $8 per m^2 incl. GST for supply and professional installation of a ground cover, and an average area of 100 m^2 to be covered.
[129] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 31 - 33.
[130] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. ii, 32-34.
[131] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. ii, 32-34.
[132] McNeil, S. Plagman, M. McDowall, P. Bassett, M. (2015): The role of ventilation in managing moisture inside New Zealand homes. BRANZ Study Report SR341. BRANZ Ltd. p1-3.
[133] Rangiwhetu, L. Pierse, N. Howden-Chapman, P. (2017). Effects of minor household interventions to block draughts on social housing temperatures: a before and after study. Kotuitui: New Zealand Journal of Social Sciences Online. 12:2. p241.
Draught stopping in this context is the installation of back draught shutters to extraction fans and draught excluders to doors.
[134] Rangiwhetu, L. Pierse, N. Howden-Chapman, P. (2017). Effects of minor household interventions to block draughts on social housing temperatures: a before and after study. Kotuitui: New Zealand Journal of Social Sciences Online. 12:2, p74-75.
[135] Regulation 17 of the Housing Improvement Regulations.
[136] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 20 – 21 and 43.
[137] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 43.
[138] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 34 - 35.
[139] NZIER (2018) Healthy Homes Standards cost benefit analysis, p. 36.
[140] Schedule to the Healthy Homes Guarantee Act 2017 item in the Schedule that relates to Schedule 1AA of the RTA.
[141] Schedule to the Healthy Homes Guarantee Act 2017 item relating to section 123CA of the RTA.
[142] Section 6 of the Healthy Homes Guarantee Act 2017, which will insert a new section 138B(4) and (5) into the RTA.
[143] Section 138B(4) of the Residential Tenancies Act.

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