Section 4: Impact Analysis

There are five tables below. Each table assesses the options for each area where standards are being proposed. All PVs are discounted over 15 years at four percent.

Analysis undertaken by NZIER used a discount rate of four percent rather than Treasury's current standard for public sector analysis of six percent. The approach taken by NZIER aligns with previous analysis undertaken by Motu which evaluated ECCA's Warm Up New Zealand insulation programme (WUNZ)[72]. Applying Treasury's six percent default discount rate tends to accentuate the front-end costs and discount the future benefits more strongly, lowering the present value of the net benefit. However, results were more sensitive to changes in the values attached to individual inputs in the analysis than to variations in discount rate. For moisture related standards, variations in discount rate and specific input assumptions do not significantly change the pattern of results in the absence of firmer information about how the measures would change the amount of moisture in and under houses and its action in creating quantifiable costs for occupants and building owners.

The tables on the following pages contain the same information contained within the CBA unless where a revised option has been developed.

Notes for Heating Standard Table

- Fixed heaters have higher capital costs and lower operating costs; portable heaters have lower capital costs and higher operating costs. The CBA assumes fixed heaters (heat pumps) in living rooms and 20 percent of heating in bedrooms is provided by heat pumps and 80 percent is provided by portable heaters with heating output less than 2.4 kilowatts. A change in this ratio for bedrooms will result in a change (increase) in the capital costs incurred by landlords and a change (decrease) in operating costs incurred by tenants.
- Revised option includes an additional 120,000 fixed electric heaters sized above 1.5 kilowatt and below 2.4 kilowatt at an installed cost of $110 GST inclusive ($67 purchase price and one hour for a tradesperson to mount device at $43). NZIER assumed effective life span for such heaters at 5 years and that it is cheaper to replace than repair. 120,000 homes is an estimate of homes that would require heating below 2.4 kilowatt and does not account for any existing fixed electric heating below 2.4 kilowatt currently in the rental stock

Heating standards		Rooms to be heated			Temperature to be achieved		Some heating devices, not others	
	No action / status quo	**Living room only** – fixed heating device where portable heater will not be sufficient	**Revised option – Living room only** - fixed heating device in all living rooms of a minimum capacity of no less than 1.5 kilowatts	**Living room fixed heat device and bedrooms** – 20% fixed and 80% portable heating devices	**At least 18°C**	**At least 20°C**	**Any heater**	**No unhealthy, inefficient and unaffordable heaters**
Able to achieve the objective (warm, dry rental homes) building solutions	**0**	**++**	**++**	**++**	**+**	**++**	**0**	**++**
Net costs and benefits (in PV$'000 terms),	**0**	**To 18°C:** 168,507 **To 20°C:** 169,513	**To 18°C:**143,557	**To 18°C:** 156,849 **To 20°C:** 163,333	**In living rooms only:** 168,507 **In living rooms and bedrooms:** 156,849	**In living rooms only:** 169,513 **In living rooms and bedrooms:** 163,333	**0**	**Not quantified**
Net costs and benefits per house (PV$)	**0**	**To 18°C:** 941 **To 20°C:** 594	**Not quantified**	**To 18°C:** 876 **To 20°C:** 573	**In living rooms only:** 941 **In living rooms and bedrooms:** 876	**In living rooms only:** 594 **In living rooms and bedrooms:** 573	**0**	**Not quantified**
Costs and benefits to government (specific to option)	**0**	**Not assessed separately. See administration costs in Section 5**						
Enduring, flexible and enable adoption of future innovation and building solutions	**0**	**+**	**+**	**+**	**+**	**+**	**0**	**+**
Overall assessment	**0**	**++**	**++**	**+**	**+**	**++**	**0**	**++**

Key:

++	much better than doing nothing/the status quo
+	better than doing nothing/the status quo
0	about the same as doing nothing/the status quo
-	worse than doing nothing/the status quo
- -	much worse than doing nothing/the status quo

Insulation standards		Minimum level of insulation		Assessing reasonable condition		Revised option
	No action (Current requirements are extended to apply after 1 July 2019)	**Properties under 2001 level are required to go to 2008 levels**	**All properties must meet 2008 levels**	**Status quo** (minimum ceiling insulation thickness from 70mm; 70-90mm; 100-120mm)	**Enhanced status quo** (minimum ceiling insulation thickness from 90mm; 90-120mm; 140-160mm)	**All properties must meet 2008 levels OR a minimum thickness of 120mm**
Able to achieve the objective (warm, dry rental homes)	**0**	**+**	**++**	**0**	**+**	**++**
Net costs and benefits (in PV$'000 terms)	**0**	7,240 – 50,677 depending on how reasonable condition is assessed (i.e. number of homes affected)	54,064 – 130,029 depending on how reasonable condition is assessed (i.e. number of homes affected)	Assessed as minimum and maximum homes in minimum level of insulation (see relevant column to the left)	Assessed as minimum and maximum homes in minimum level of insulation (see relevant column to the left)	94,611[1]
Net costs and benefits per house (PV$)	**0**	724	677 - 684	Not assessed separately	Not assessed separately	676[1]
Costs and benefits to government	**0**	**Not assessed separately. See administration costs in Section 5**				
Enduring, flexible and enable adoption of future innovation and building solutions	**0**	**+**	**+**	**+**	**+**	**+**
Overall assessment	**0**	**+**	**++**	**0**	**+**	**++**

Key:

++	much better than doing nothing/the status quo
+	better than doing nothing/the status quo
0	about the same as doing nothing/the status quo
-	worse than doing nothing/the status quo
- -	much worse than doing nothing/the status quo

[1] Calculated from NZIER Cost Benefit Analysis Table 6

Moisture ingress and drainage standards		Preventing moisture from entering the home and inadequate drainage		
	No action	**Install vents and moisture barriers**	**Revised option - ground moisture barrier for all homes with enclosed subfloor space (where accessible)**	
Able to achieve the objective (warm, dry rental homes)	**0**	**+**	**+**	With all moisture ingress options, while the PVs are negative, benefits for property maintenance, health, mental health, school attendance, subjective well-being and comfort were not quantified. The options would require relatively little additional benefit to be found to break even. (See page 38 of the Creating Healthy Rental Homes – Discussion document Preventing moisture entering the home reduces internal moisture levels decreasing the likely hood of mould and mildew. Mould and mildew pose a health risk but this has not been quantified financially to date.
Net costs and benefits (in PV$'000 terms)	**0**	-111,820	-153,507[2]	
Net costs and benefits per house (PV$)	**0**	-583	-533[2]	
Costs and benefits to government (specific to option)	**0**	**Not assessed separately. See administration costs in Section 5**		
Enduring, flexible and enable adoption of future innovation and building solutions	**0**	**0**	**0**	
Overall assessment	**0**	**0**	**0**	

Key:

++	much better than doing nothing/the status quo
+	better than doing nothing/the status quo
0	about the same as doing nothing/the status quo
-	worse than doing nothing/the status quo
- -	much worse than doing nothing/the status quo

[2] Calculated from NZIER Cost Benefit Analysis Table 15

Ventilation standards		Allowing moisture to ventilate out of the home		
	No action	Openable windows and extract fans in bathrooms	Openable windows and extract fans in bathrooms and kitchens	
Able to achieve the objective (warm, dry rental homes)	0	+	+	With all ventilation options, while the PVs are negative, benefits for property maintenance, health, mental health, school attendance, subjective well-being and comfort were not quantified. The options would require relatively little additional benefit to be found to break even.. (See page 22 of the Creating Healthy Rental Homes – Discussion document). Effective ventilation reduces internal moisture levels decreasing the likely hood of mould and mildew. Mould and mildew pose a health risk but this has not been quantified financially to date.
Net costs and benefits (in PV$'000 terms)	0	-54,550	-122,863[3]	
Net costs and benefits per house (PV$)	0	-216	-264[3]	
Costs and benefits to government (specific to option)	0	Not assessed separately. See administration costs in Section 5		
Enduring, flexible and enable adoption of future innovation and building solutions	0	0	0	
Overall assessment	0	0	0	

Key:

++	much better than doing nothing/the status quo
+	better than doing nothing/the status quo
0	about the same as doing nothing/the status quo
-	worse than doing nothing/the status quo
- -	much worse than doing nothing/the status quo

[3] Combined values from Table 11 in NZIER CBA

Draught-stopping standards		Preventing moisture from entering the home and inadequate drainage
	No action	**Stop unnecessary gaps or holes that cause noticeable draughts**
Able to achieve the objective (warm, dry rental homes)	**0**	**+**
Net costs and benefits (in PV$'000 terms)	**0**	94,787
Net costs and benefits per house (PV$)	**0**	578
Costs and benefits to government (specific to option)	**0**	**Not assessed separately. See administration costs in Section 5**
Enduring, flexible and enable adoption of future innovation and building solutions	**0**	**+**
Overall assessment	**0**	**+**

Key:

++	much better than doing nothing/the status quo
+	better than doing nothing/the status quo
0	about the same as doing nothing/the status quo
-	worse than doing nothing/the status quo
- -	much worse than doing nothing/the status quo

Compliance timeframes				
	Option one A - Comply with the standards within 90 days of a new or renewed tenancy from 1 July 2022, with all rental homes compliant by 30 June 2024	Option one B - Comply with the standards within 90 days of a new or renewed tenancy from 1 July 2021, with all rental homes compliant by 30 June 2024	Option two – A single compliance date of 1 July 2022	Option three - Staggered compliance dates over five years, either by the standard or by the location of the rental home
Tenants see the benefits of a warmer, drier home as soon as possible	-	+	+	+
Landlords and property managers have sufficient time and support to understand and comply with the changes, and procure and install necessary requirements	+	0	0	-
Industry capacity is able to respond to the changes, particularly if impacted by other government initiatives such as KiwiBuild	+	0	-	-
Government has sufficient time to provide advice through information campaigns, develop necessary guidance, and expand enforcement capacity where necessary	+	0	+	0
The timeframe does not restrict flexibility and innovation to meet a higher quality of rental home	+	+	-	0
Overall assessment	+	0	0	-

Key:

++	very good performance against criteria
+	good performance against criteria
0	no performance against criteria
-	poor performance against criteria
- -	very poor performance against criteria

Section 5: Conclusions

5.1 What option, or combination of options, is likely best to address the problem, meet the policy objectives and deliver the highest net benefits?

From the above assessment, new standards should be introduced for heating, insulation, ventilation, moisture ingress and drainage, and draught-stopping as all the options result in greater benefits than costs compared to doing nothing (or the status quo).

The standards that are likely best to address the problems identified, meet the policy objectives and deliver the highest net benefits are:

Heating

Location	Option two: landlords should be required to provide a heating device in the living room only
Indoor temperature	Option two: heaters that landlords provide must be capable of achieving an indoor temperature of at least 18°C in the rooms applicable to the heating standard
Heating devices	Option one: landlords should only be required to provide fixed heating devices

Insulation

Minimum level Degradation	Revised Option three that combines the options and simplifies the requirement: minimum level of ceiling insulation required that is akin to the 2008 standard OR a minimum thickness of 120mm

Ventilation

Method of ventilation	Option three: openable windows, plus extract fans in bathrooms and kitchens

Moisture ingress and drainage

Method of protection	Revised Option two that removes the need for additional air vents: ground moisture barrier for all homes with enclosed subfloor space (where accessible) and retains the need for efficient drainage, guttering, downpipes and drains

Draught stopping

Appropriate level	Revised Option two that simplifies the requirement: stop any unnecessary gaps or holes that cause noticeable draughts

Compliance timeframes

Appropriate timeframe	Comply with the standards within 90 days of a new or renewed tenancy from 1 July 2022, with all rental homes compliant by 30 June 2024

5.2 Summary table of costs and benefits of the preferred approach- Note: All PVs are discounted over 15 years at 4 percent.					
Summary of preferred standards: Benefits		**Affected parties (identify)**	**Comment**	**Impact PV$'000 High, medium or low for non-monetised impacts**	**Evidence certainty**
Heating	Living room only to 18°C, no unhealthy, inefficient unaffordable heaters, fixed heating devices	Tenants Mortality benefits Environment (reduced CO_2) Suppliers	Benefits to suppliers will be concentrated over the period landlords are given to comply	**669,950** Tenants 605,993 Mortality 100,245 Environment 9,136 Suppliers -45,424	Medium-high
Insulation	All houses required to meet 2008 standards for insulation or be 120mm thick	Tenants Suppliers Environment (reduced CO_2)		**282,324**[4] Tenants 279,454 Environment 2,052 Suppliers 817	Medium-high
Draught-stopping	Stop unnecessary holes and gaps	Tenants Suppliers		**134,730** Tenants 131,649 Suppliers 3,081	Medium
Ventilation	Opening windows, extract fans in bathrooms and kitchens	Tenants Suppliers	Unquantified benefits could result in a break even or positive net PV for this option	**5,584** Tenants ***Unquantified*** Suppliers 5,584	Low-medium
Moisture ingress and drainage	Subfloor moisture barriers where feasible	Tenants Suppliers	Unquantified benefits could result in a break even or positive net PV for this option	**12,833**[4] Tenants ***Unquantified*** Suppliers 12,833	Low-medium
Total monetarised benefits				**1,105,421**	
Total non-monetarised benefits		School attendance, mental health, subjective well-being and comfort: **Low-medium**			

[4] Revised options were not assessed in NZIER CBA. Impacts calculated using values extrapolated from NZIER CBA

Summary of preferred standards: Costs		Affected parties (identify)	Comment	Impact PV$'000 impacts	Evidence certainty
Heating	Living room only to 18°C, no unhealthy, inefficient unaffordable heaters, fixed devices	Landlords (capital and operating)	Costs to landlords will be concentrated over the period landlords are given to comply.	**501,433**	Medium-high
Insulation	All houses required to meet 2008 standards for insulation or be 120mm thick	Landlords (capital)		**187,713**[4]	Medium-high
Draught-stopping	Stop unnecessary holes and gaps	Landlords (capital)		**39,943**	Medium
Ventilation	Opening windows, extract fans in bathrooms and kitchens	Landlords (capital) Tenants (operating)		**128,446** Landlords 72,446 Tenants 56,049	Low-medium
Moisture ingress and drainage	Subfloor moisture barriers where feasible	Landlords	-	**166,340**[4]	Low-medium
Administration costs (already budgeted)	Budgeted MBIE administration costs (e.g. promoting, advising, monitoring, and enforcing standards)	Government (capital and operating)		**42,689**[5]	
Total monetarised costs				**1,023,875** Including budgeted administration costs **1,066,564**	
Non-monetised costs		MBIE regulatory administration (e.g. changes in dispute complexity, and mediation frequency)			

[4] Revised options were not assessed in NZIER CBA. Impacts calculated using values extrapolated from NZIER CBA

[5] Based on monitoring and enforcement of an additional 2000 new disputes arising over the standards each year: 500 being disputes arising from complaints; 1,500 being pro-active interventions

5.3 What other impacts is this approach likely to have?

In addition to the non-monetised benefits, we have identified that adjustments may be made in rental markets as landlords may seek to recover their business costs associated with complying with the regulations through increased rents. Any rental increases will need to meet the requirements of the Residential Tenancies Act.

There may also be changes in property ownership that occurs between landlords, or from current landlords to owner-occupiers. We would not be concerned with these changes where housing supply is unaffected. We also expect any shifts to owner-occupiers that result in properties remaining unimproved would be minor.

5.4 Is the preferred option compatible with the Government's 'Expectations for the design of regulatory systems'?

The preferred options are compatible with the Government's 'Expectations for the design of regulatory systems'.