A GREEN RECOVERY

Kick-starting a just transition with healthy homes, providing a multi-billion dollar economic boost
The following organisations and groups support this proposal
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**Kick-starting a just transition with healthy homes, providing a multi-billion dollar economic boost**

**Summary**

This paper shows that improving 120,000 New Zealand homes to the healthy standards that Kiwis deserve would deliver a net benefit of $1.5 - $3.1 billion, an economic stimulus, lower carbon emissions, improve health outcomes and help kick-start a just transition by creating over 1,000 new jobs.

Besides the clear benefits to New Zealanders, the project described in this paper also delivers on key government policies such as protecting vulnerable families, achieving equitable housing outcomes for Māori, eliminating energy hardship and assisting Aotearoa New Zealand to transition to the jobs of the future.

Specifically, the project:

- creates 1,300 jobs for four years
- improves New Zealand's health and resistance to infections
- ensures Kiwis need fewer prescriptions and hospitalisations
- reduces mortality
- contributes to equitable housing outcomes for Māori by targeting low-income households, a group in which Māori are over-represented
- strengthens the electricity grid and reduces the risk of power shortages
- decarbonises New Zealand’s electricity grid
- provides a second wave stimulus to the economy
- reduces financial and social costs associated with housing-related health conditions
- delivers on the Government’s Electricity Price Review – Energy Hardship outcomes by improving housing quality and reducing the costs to heat vulnerable homes to a healthy temperature at an affordable cost
- delivers on the Sustainable Development Goals.

Partners are ready to execute the project, the supply chain is in place and there are quick, robust systems to upskill people.

The New Zealand Green Building Council urges the New Zealand Government to consider this paper, and to implement the recommendations to realise the host of benefits identified.
About the New Zealand Green Building Council

The NZGBC are passionate advocates for better buildings, because we know that better buildings mean healthier, happier Kiwis. We run trusted, robust authentication schemes, such as Green Star and Homestar, that highlight the many buildings that have proven their healthy, sustainable and safe credentials.

We’re a non-profit, that includes 520 companies and organisations amongst our members, including banks, energy companies, insurers, government departments, publicly listed property companies, project managers, manufacturers, construction companies, architects, developers, designers and tertiary education institutions. This includes many of the NZX50.

These members have a combined market turnover of $20bn. We also work with local government members, representing over 60% of Aotearoa New Zealand’s population.

The opportunity

The recommendations in this paper create well over a thousand jobs and assist Aotearoa New Zealand to transition to a lower carbon, healthier future as we recover from the impacts of COVID-19.

Forty percent of New Zealand’s existing homes are damp and mouldy.

According to OECD standards, New Zealand homes are poorly constructed and heated. An estimated 1,600 New Zealanders die each year due to cold weather, five times the rate of cold-linked deaths reported in Sweden.

Upgrading existing housing in the right ways will ensure homes are comfortable all year round reducing household bills, health care costs and improving outcomes for vulnerable households. Lower energy bills will make kiwi families more secure and enable them to spend on other items creating a second stimulus for the economy.

The NZGBC proposes three recommendations for improving homes and stimulating the economy. Following the recommendations is a summary of the jobs created and net benefits of the scheme.
1. Expand and scale up the Warmer Kiwi Homes programme

The Warmer Kiwi Homes programme could be enhanced by making more improvements to each home and by scaling the programme up. This will create jobs, improve health and reduce emissions.

   a) Expand - Aligning the programme with the Healthy Home Standard - The Warmer Kiwi Homes programme does not consider the full measures it takes to improve the health of a home. It currently focuses on insulation and heating. The Healthy Homes Standard, which was created more recently, includes draught stopping, ventilation and drainage measures. Although not covered by the Healthy Home Standard, we suggest energy efficient lighting and hot water (lagging + controls) also be included.

   These items not covered by the Warmer Kiwi Homes programme are widely regarded as essential. The Energy Efficiency and Conservation Authority (EECA) website, for instance, states “Good ventilation is essential for maintaining air quality and removing excess moisture from your home.”

   The tenancy.govt.nz website states “Mould and dampness caused by poor ventilation is harmful for tenants’ health as well as landlords’ property. The ventilation standard targets dampness and mould in rental homes.”

   It is the same with other measures. While it is useful to install insulation, if draughts are not stopped in a property this can still leave the occupant with health impacts. It takes a great deal of time and resources to arrange an appointment and send people to improve a home. It is inefficient if the Warmer Kiwi Homes programme does not cover the full measures homes need.

   Numerous reports for EECA point to energy efficiency as the most cost-effective way to decarbonise our energy grid. The reports point to lighting and space heating as the key measures that can drive change. It is highly likely a second visit will be needed in the near future to homes already treated under the programme to improve these remaining items.

   It is recommended that the Warmer Kiwi Homes programme is expanded to cover the full extent of the Healthy Homes Standard, energy efficient lighting and hot water.

   b) Scaling up – New Zealand has too many damp and cold homes. The 2015 BRANZ House Condition Survey found when it inspected properties that 40% of kiwi homes are damp and mouldy.

   Some homes are being improved through the Residential Tenancy Act Healthy Homes Standard. Of the remaining owner occupier homes, it is
estimated that over half a million need insulation, ventilation, draught
proofing, heating or other improvements.

The benefit cost ratio of improving kiwi homes through EECA programmes
has been studied numerous times. Each of these studies has found that
these programmes deliver significant and prolonged health benefits and
energy. The most recent benefit cost ratios of 5.2 to 6.4 are some of the
strongest for government intervention in any policy area. These illustrate a
return of $5.2 to $6.4 for every dollar invested in the scheme.

Many economists are projecting a recession that lasts as long as two years.
This means two winters following the COVID-19 outbreak and lockdown with
an estimated 200,000 people, or more, out of work or suffering reduced
income.

Many people at home (through unemployment, working from home or self-
isolating) are likely to be living in cold and damp conditions with reduced
means to afford heating. This situation has the potential to exacerbate
health conditions and increase the health impacts of COVID-19.

“We people with lower incomes are at higher risk of contracting COVID-19, and
evidence from the outbreaks in the USA and Europe has already shown that
death is far more likely for COVID-19 in those with existing respiratory
conditions, many of which are strongly related to cold damp housing in New
Zealand”, explains Nevil Pierse, Deputy Director of He Kainga Oranga, the
Housing and Health Research Programme at University of Otago.

He went on to say, “The research also shows that insulating houses is very
effective in reducing hospitalisations from these respiratory conditions.”

In the Warmer Kiwi Homes programme, EECA has created a strong
relationship with installers, a robust quality assurance regime, a strong brand
and a national reach.

It is recommended that the Warmer Kiwi Homes programme is
expanded to cover an additional 50,000 homes.

2. Stimulate private investment by expanding targeted rates schemes

Twelve local authorities in New Zealand enable people to install energy efficiency
improvements to their homes through a voluntary targeted rates (VTR) scheme.
These schemes are long running (established in 2009) and have successfully
improved over 30,000 homes.

The improvements include insulation, ventilation, heating, and other measures.
Auckland Council, for instance, currently improves 2,700 properties a year through
its VTR scheme. For a full list of councils involved and homes improved, please see
Appendix 4.

The councils have an accredited list of installers. The loans, and interest, are paid off
by homeowners over time through the rates paid to the council. The administration
costs are usually covered by an interest charge. There is strong appetite for the schemes with good uptake each year.

These schemes have a proven record of improving kiwi homes. There is strong political support within councils to continue and grow the VTR schemes. Boosting these schemes will enable current providers to employ additional staff and improve more homes.

Aotearoa New Zealand will not meet its carbon targets without a deep improvement of existing homes.

**It is recommended that:**

- EECA facilitate sharing of best practice experience and outcomes of VTR schemes with other councils.
- the Minister of Local Government encourage councils to set up new targeted rates schemes, with a goal of 14 additional VTR programmes in place by mid-2022.
- the existing councils’ VTR schemes are supported to double their current size.

3. **Kick-start a market transformation of kiwi homes – Energy ratings**

Energy ratings are a powerful way to inform owners of the energy efficiency and warmth of homes. Evidence shows that an energy rating kick-starts people to improve their homes.

The following countries require energy performance certificates on the sale of homes; Australia, Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

Research shows that energy ratings help transform markets, support other energy efficiency programs and improve residential housing stock performance. They do this by:

a) rewarding energy efficient homes with 3-9% higher sale prices, therefore encouraging owners to invest in energy efficient measures, stimulating local contractors and employment.

b) helping influence people when they make renovations. 2016 research on homes in Texas, Australia, France, Portugal and the Netherlands found home energy ratings and display programmes (HER&D in the table below) helped influence 12-37% of renovators to take action to improve the energy efficiency of their home.
Aotearoa New Zealand has only recently gained a nationally agreed energy rating for homes. HomeFit, launched in late 2018, is a quick and robust way to check the health and energy efficiency of kiwi homes. Councils, such as Auckland Council, are adding HomeFit to the LIM statement, and property websites, such as Homes.co.nz, will start adding HomeFit ticks to home listings this year.

Publicly displaying home energy ratings will stimulate other Kiwis to invest to improve their homes. The same is found with energy labels for buildings. NABERSNZ, a label system for buildings, greatly increased private sector investment in the energy efficiency of buildings.

The more that a nationally agreed standard gains uptake, the more homeowners and landlords will want to improve their homes and meet the full standard. This gains them the tick and ensures they compare well with competitors online.

Experience with the Residential Tenancies Act was that a large number of landlords left insulating to the last moment and rental properties are still being insulated up to 10 months past the deadline (30 June 2019). If Government is serious about getting all rentals up to Healthy Homes Standard, providing time-limited incentives will flatten the curve.

Training installers and assessors to HomeFit standards will help them understand how to improve the health of the whole house, thereby providing skills Aotearoa New Zealand will need as we seek to decarbonise and improve our homes further.

**It is recommended that government programmes such as Warmer Kiwi Homes and voluntary targeted rates schemes assess homes to the HomeFit standard. This will stimulate other Kiwis to invest in their homes.**

Where the above recommendations are taken up, an additional 100,000 homes will be improved to a healthy standard and rated. Over four years, where 3% of homeowners selling or changing tenants are influenced to take action, a further 20,000 home owners will improve their homes up to home energy rating standards vii.

<table>
<thead>
<tr>
<th>HER&amp;D Jurisdiction</th>
<th>Portion of buyers influenced by HER&amp;D report recommendations when making renovations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austin, TX</td>
<td>12% (first year of program) (ACEEE 20011)</td>
</tr>
<tr>
<td>ACT, Australia</td>
<td>15% (Energy Consult 2006)</td>
</tr>
<tr>
<td>France</td>
<td>37% (ADEME 2012)</td>
</tr>
<tr>
<td>Portugal</td>
<td>17.5% (ADENE 2015)</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>22% (Murphy 2014)</td>
</tr>
</tbody>
</table>
Benefits quantified

Jobs
The net employment numbers will be in the order of 1,300 jobs over the course of the project (four years).

These figures are based on staffing numbers from home improvement companies such as the Sustainability Trust. They relate to similar projects and are supported by EECA analysis of employment creation under the Government’s 2009-2013 Warm Up NZ programme viii.

They are split out into jobs from direct employment (1,080) and indirect employment figures (240 jobs/year) estimated from the supply chains and indirect services supplied to the project.

The provision of home improvement and energy rating services provide a particularly good opportunity to upskill people who may have lost their jobs in other sectors, such as the tourism or hospitality sectors.

The qualifications, as set out in Appendix 3, can be quickly taken up and companies throughout New Zealand are experienced with expanding the size of their teams, supervising new team members, and inducting them into their organisation’s quality assurance processes. Programmes such as Warmer Kiwi Homes have very sound checks of the quality of the work, ensuring that delivery agents upskill to provide a quality service.

The New Zealand residential construction market is slowing down. This is a huge driver of jobs and materials through the supply chain. Projects like the ones proposed in this document can provide jobs that are easy to transition to and demand for materials and associated services.

There are over 500,000 homes across New Zealand that are still in need of improving, so there is a strong market for future work.

Numerous insulation and home improvement companies have helped people transition from other industries. Tom Chea was working in a bakery before joining Sustainability Trust and is now an insulation install team leader.
Reducing financial and social costs associated with housing-related health conditions

The health benefits from improving homes is well evidenced. Research commissioned by EECA found that in retrofitted houses:

- admissions to hospitals for respiratory conditions dropped by 43%
- days off school reduced by 23%
- days off work reduced by 39%

The study, which analysed the impact of improving 47,000 homes, also noted that “those in the treatment group had a significantly lower mortality rate than those in the control group. These results suggest that treatment prevented about 18 deaths among those aged 65 and over who had previously been hospitalised with circulatory illness”.

The research suggests that, where the homes are in the same condition as those eligible for the EECA programme, improving 120,000 homes would prevent 46 deaths.

Separate research of the Government’s Healthy Homes Initiative (2019) has shown healthy housing interventions had a payback time of two years and ongoing benefit in following years.x

Contributing to equitable housing outcomes for Māori

Research also shows that Māori experience significantly worse housing outcomes than other groups. Housing of a poor standard can have cumulative impacts on physical and mental health, and on education and labour market outcomes – also areas where Maori experience disproportionate negative impacts.

This project can help to address issues of sub-standard housing for Maori (and other groups similarly affected by poor housing outcomes such as Pacific peoples and people with disabilities), which will contribute to further positive outcomes against a range of economic, social and health metrics.

Sustainable Development Goals

This project directly addresses seven of the Sustainable Development Goals and would make a significant contribution to Aotearoa New Zealand’s efforts to achieve positive outcomes against each of the following:

- Goal 1 No Poverty
- Goal 3 Good Health and Well-being
- Goal 7 Affordable and Clean Energy
- Goal 8 Decent Work and Economic Growth
- Goal 9 Industry, Innovation and Infrastructure
- Goal 11 Sustainable Cities and Communities
- Goal 13 Climate Action.
**Return on investment**
The following would be the investment committed for the above improvements:

- **Expand and scale up Warmer Kiwi Homes programme** - by 50,000 homes at $6,500 per home. Forty percent to be covered by infrastructure fund. Forty percent by EECA (both these are listed under Government costs in the table below).

  The remaining 20% would come from philanthropic sources, DHBs or others, as currently provided through Warmer Kiwi Homes.

- Scale up Voluntary Targeted Rates schemes – This means private citizens taking on loans to improve their homes. It is listed under private costs.

- Energy ratings – These are the homes that home owners improve as a result of peer or market pressure or from being inspired to improve their homes after seeing other homes being improved and being listed on LIMs or online.

<table>
<thead>
<tr>
<th></th>
<th>Expand Warmer Kiwi Homes (for CSC holders)</th>
<th>Scale up Voluntary Targeted Rates schemes</th>
<th>Energy ratings</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of homes</td>
<td>50,000</td>
<td>50,000</td>
<td>20,000</td>
<td>120,000</td>
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<tr>
<td>Government costs (millions)</td>
<td>$260</td>
<td>$260</td>
<td></td>
<td>$260</td>
</tr>
<tr>
<td>Private/philanthropic/DHBs costs (millions)</td>
<td>$65</td>
<td></td>
<td></td>
<td>$390</td>
</tr>
<tr>
<td>Private costs (millions)</td>
<td></td>
<td>$325</td>
<td>130</td>
<td>$130</td>
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<tr>
<td>Total costs</td>
<td>$325</td>
<td>325</td>
<td>130</td>
<td>$780</td>
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<tr>
<td>Benefit cost ratios</td>
<td>5.2</td>
<td>2.6</td>
<td>2.6</td>
<td></td>
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<tr>
<td>Total benefits</td>
<td>$1,690</td>
<td>$845</td>
<td>338</td>
<td>$2,873</td>
</tr>
<tr>
<td>Government costs</td>
<td></td>
<td></td>
<td></td>
<td>$260</td>
</tr>
<tr>
<td>Net benefits after government costs</td>
<td></td>
<td></td>
<td></td>
<td>$2,613</td>
</tr>
<tr>
<td>Net benefits after all costs</td>
<td></td>
<td></td>
<td></td>
<td>$2,093</td>
</tr>
<tr>
<td>Aggregated BCR</td>
<td></td>
<td></td>
<td></td>
<td>3.7</td>
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Benefit cost ratios (BCR) – Motu’s recent work on this subject has found a benefit cost ratio of 5.2 to 6 (benefits of $5.20 or $6 for every dollar committed). The above analysis takes a conservative approach by using $5.2 for the Warmer Kiwi Homes programme.

**Understand the results** - The net benefit after all costs is $2,093 million. Benefit Cost Ratios (BCRs) of home insulation/improvement programmes were researched by Grimes et al\textsuperscript{xii} in 2011. Subsequent updates of this research\textsuperscript{xiii xiv} found different BCRs.
Arthur Grimes, Senior Fellow, Motu Economic & Public Policy Research states “It is reasonable to conclude (using a 4% real discount rate and a central estimate of additionality) that the BCR lies within the range of 3.5 – 6.5”

Where BCRs are lowered to 3.5 for the Warmer Kiwi Homes programme, and a BCR of 2.6 for the VTR and the energy ratings interventions, the net benefit after all costs is $1,541 million. The substantially lower BCR for VTR & energy ratings allows for the health benefits in the able to pay group being less than community service card holders\(^1\).

Where the higher BCR is applied, 6.5 for Warmer Kiwi Homes and 3.9 for the VTR and energy rating interventions, the net benefit after all costs is $3,107 million.

**Important caveats** - The benefits quantified here include household energy savings on electricity and gas, and savings on health care costs for respiratory conditions. The net benefit calculation in the table above does **not** include:

- other housing-related health savings
- economic or social benefits of reduced days off school or work
- other energy savings (e.g. wood, coal)
- carbon reductions or improvements in air quality.
- economic or social benefits of providing jobs

The net benefit of this programme is likely to be higher where these elements are factored in.

**Energy efficiency is the optimal pathway to decarbonise the grid**

The Energy Efficiency First EECA report published in July 2019\(^{xv}\) set out that energy demand is to grow significantly in New Zealand. It states that “An optimal pathway to decarbonising New Zealand’s electricity system must include investment in the energy efficiency of existing electrical demands.”

The report goes on to state, “Our research indicates that electricity efficiency measures can be deployed at a lower equivalent cost than new renewable generation, and that implementing these measures would make it easier to meet new demand arising from electrification. We also find that increased and accelerated uptake of electricity efficiency measures would reduce GHG emissions from electricity, but, for a range of reasons, these measures are often overlooked as a potential solution.”

\(^1\) There is no research yet on the BCRs for VTR or energy ratings in New Zealand. Both programmes put insulation at the forefront of their interventions.
The measures laid out in this report deliver LED lights and heat pumps into 120,000 kiwi homes, those items EECA lists as optimal for improving energy efficiency. This proposal also harnesses the power of private sector investment to further boost economic growth and jobs.

**Reducing peak demand reduces infrastructure costs**
The 2018 Concept Consulting report\textsuperscript{xvi} estimates that greater uptake of energy efficiency measures generally (beyond the work set out here) that reduce the peak shape of household demand could reduce the overall cost of supplying electricity to New Zealand households by $30 million per year.

The report also sets out that energy efficiency measures could lower generation operating costs by $100 million and create $280 million worth of savings for network and generation capital expenditure.

These benefits are not included in the total net benefit calculation table of this report.

**Reducing carbon emissions – alignment with the Zero Carbon Act**
This project reduces the demand for energy. More than that - it reduces demand for the energy that has the highest carbon footprint.

Electricity is costly to produce and transport and the cost of provision is particularly high in peak demand periods. It is also high in carbon terms at peak demand periods.

Concept Consultants \textsuperscript{xvii} set out to EECA in their 2018 report that the potential economic benefits from energy efficiency from the residential sector are $300 million in net terms over 10 years (they are not realised due to a mis-pricing of power and carbon, principal-agent issues & transaction costs).

The report also demonstrated that the carbon intensity of energy tends to vary depending on the time of day.
Residential lighting and space heating are responsible for the winter peak in demand for energy (and much of the fossil fuel generation).

Improving lighting and space heating - with programmes such as those set out in this proposal - result in reductions in fossil fuel use, and therefore significant carbon savings. The report also showed that reducing the energy it takes to heat and light our homes can create $60 million worth of carbon savings.
Alignment with government policy and Party Manifestos

This project aligns with the following Acts of Parliament and government policies:

- Energy Efficiency and Conservation Act 2000
- New Zealand Energy Efficiency and Conservation Strategy 2017-22\(^{xviii}\)
- Zero Carbon Act 2019
- Ministry of Housing and Urban Development Statement of Strategic Intentions 2019-2023
- Goals of New Zealand’s Human Rights Commissioner
- UN Special Rapporteur report on the right to housing, February 2020

They also align with the
- Labour Party 2017 Election Manifesto
- New Zealand First 2017 Manifesto
- Greens 2017 Election Manifesto
A secondary boost to the economy

A previous study of EECA insulation programmes has found “that insulation treatment does, on average, reduce metered energy usage by treated houses” with “an annual reduction in electricity use for typical energy users in the order of 1.0% and an annual reduction in total metered energy usage (electricity plus reticulated gas) of around 0.7%. Since metered energy used for space heating represents only 16% of total metered household energy use, the implied savings on metered energy used specifically for space heating are considerably higher at approximately 6% and 4% respectively.”

It goes on to say that “the study does not account for whether savings are achieved in peak or off-peak electricity demand times.” And that “prior studies have found considerable reduction in peak electricity demand loads from insulation programmes. This aspect will need to be accounted for when incorporating our results into a cost-benefit analysis of the programme.”

The study also notes that it was not able to capture “savings in other fuels that we have not measured (changes in consumption of coal, wood and LPG).”

Where households save on their energy bills, this money can be spent in the local economy. As an illustration, where $150 is saved per year this equates to a saving of $108 million for kiwi households over six years. This is money that would create more jobs if spent back in the New Zealand economy.
Risks

The structures are already in place to deliver this project. Scaling up existing housing upgrade work, albeit with a wider scope, can be accomplished in a timeframe of no more than three to four months following securing of funding.

Barriers or risks to the project going ahead at its anticipated scale and timeline include:

- Securing of sufficient stock of insulation, heating, ventilation units etc.
  - Mitigation: Channel checks indicate current supply chains are still operating at adequate levels.
- Hiring and training of staff in a range of office and field related roles
  - Mitigation: Suppliers are used to expanding their teams and training people. Appropriate training (as outlined in Appendix 3) can be undertaken within two months.
- Adequate promotional activity that ensures a pipeline of eligible households willing and able to participate as project recipients.
  - Mitigation: Councils, NZGBC, EECA, insulation providers, community groups and others can work to promote the extensions to the programme, including through networks of housing focused collectives such as the Wellington Regional Healthy Housing Group.

I hope this report has been of use.

We look forward to discussing this and any other matters that would assist.

Best regards

Andrew Eagles
CEO, NZ Green Building Council

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Appendix 1 - Alignment with government priorities

The Energy Efficiency and Conservation Act 2000 states EECA’s functions are to “Encourage, promote, and support energy efficiency, energy conservation, and the use of renewable sources of energy.”

Within the Act it is made clear that EECA is required to consider all types of benefit that accrue; economic, environmental and social.

The New Zealand Energy Efficiency and Conservation Strategy 2017-22

This strategy is very clear that energy efficiency is key. It states “To leverage our renewable advantage we should not only focus on renewable electricity generation but also energy-saving.

Warm, dry and energy efficient homes provide significant health benefits and reduce peak electricity consumption during the winter.

Getting more value and benefit from energy is significant to New Zealand as many of our key exports are energy-intensive to produce. To remain competitive, it is important that we manage and reduce energy use and costs.”

One of the key priorities is “Support continuous improvement in the energy performance of new and existing homes”

The MBIE consultation on Accelerating Renewable Energy and Energy Efficiency Discussion Document, December 2019

“Energy efficiency will be critical to meeting our climate goals and transitioning to a low emissions economy. Energy efficiency gains result in energy savings and support economic prosperity by diverting investment in new energy supplies, including electricity generation or transmission capacity.”

Ministry of Housing and Urban Development Statement of Strategic Intentions 2019-2023

“Achieving equitable housing outcomes for Māori, with an immediate focus on ... improving rural and substandard housing.”

Priority #7 of Ministry of Housing and Urban Development Statement

Mr David Rutherford – Formerly New Zealand’s Human Rights Commissioner

“Good housing is not something that some people are entitled to and others are not. It is a human right.
"New Zealanders, and particularly our most vulnerable, are increasingly experiencing the flow-on effects of successive Governments over many decades neglecting to treat housing as a human right.

"The impact of this neglect on educational achievement, good health and other foundations of wellbeing is well documented."

Ms Leilani Farha – UN Special Rapporteur on the right to housingxxi, February 2020

“While the Government has taken important steps to improve the situation, solving the root causes of the crisis, however, will require a more ambitious, innovative and courageous approach.

“When one in every hundred people is homeless, half of whom are under 25 years; when thousands are living in vehicles or housed in motels provided by the State; when houses are in such disrepair that they cause otherwise preventable illness and disease; and when middle income earners are finding it difficult to afford an accessible and decent home, the result is not just a housing crisis, it is a human rights crisis of significant proportions.

“These conditions indicate not only violations of the right to housing, but also of the right to health, security and life”. 
Appendix 2 - Alignment with Party manifesto statements

The following are statements from party manifesto statements:

- Hundreds of thousands of houses cost too much to heat.
- It is time for a fresh approach to make our homes healthy to live in.
- Labour will promote sustainable practice, and establish measurable standards, across the public sector.
- New Zealand needs a built environment designed and constructed according to principles of sustainability.
- Inadequate building quality and sustainability objectives in the Building Code contribute to poor quality housing.
Appendix 3 - Training

The insulation industry has recently improved their training offer:

- The current course can be completed in one day at a cost of $149 ex. GST
- Work is ongoing with BCITO and NZQA on a formal qualification providing a recognised qualifications framework for a long-term career path in the industry.

To transition to the insulation industry, the following is required:

- Complete the IAONZ training course – one day, $149 plus GST
- Employees must be conversant with the NZ Standard NZS4246:2016 –
- On the job installation experience is required. This must be conducted under the supervision of experienced team leaders as part of a team, for a minimum of one to two months.
Appendix 4

The following assumptions are made about the voluntary targeted rates (VTR) scheme.

A total of 8,000 installations are happening each year at present. A doubling of existing schemes would improve an additional 32,000 homes over four years.

Fourteen new councils would be enrolled to establish VTRs. It would take until 2021 to establish the schemes.

- In 2022 - their first year of installs - 5,600 homes would be improved
- In 2023 they would do the same as in 2022
- In 2024, 6,800 homes would be improved in the final year of the programme.

| Doubling of existing programme | 32,000 additional homes improved |
| New VTR schemes established    | 18,000 additional homes improved |
| Additional homes improved      | 50,000 additional homes improved |

The current providers of VTR schemes are

| Auckland Council |
| Wellington Regional Council |
| ECAN - Healthy Homes Canterbury |
| South Taranaki |
| New Plymouth |
| Hawkes Bay |
| Warm Dunedin |
| Clean Air Rotorua |
| Warmup Clutha |
| South Waikato District Council |
| Clean Air Invercargill/Gore |
| Marlborough District Council |

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2 Conservative assumptions were made about the total number of homes improved per year in some of the regional VTR schemes.
References

i BRANZ Housing Condition Survey 2015
https://www.branz.co.nz/cms_show_download.php?id=a1eff0a2fd9885ecf878ce475631d77025cf3b8

ii Energy Efficiency First

iii The case for energy efficiency action - Concept Consulting report for EECA 2018

iv Neil Perse statement on health issues with damp cold homes 2020

v Energy efficient homes sell for more - international studies on energy efficiency

vi The American Council for an Energy-Efficient Economy (ACEEE) research paper

vii 100,000 homes are sold in New Zealand each year. 80,000 rental properties experience a turn over of tenants. These are key interventions when home improvement often take place.

The impact of having 100,000 homes rated to energy standards and displayed on line will lead to further interest in ratings of homes. Where just 3% of those 180,000 annual transactions are influenced to improve their homes to the HomeFit standard this will deliver over 20,000 to be warmer and healthier over 4 years.

viii Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme

ix The impact of retrofitted insulation and new heaters on health services utilisation and costs, and pharmaceutical costs. Evaluation of the New Zealand Insulation Fund.

x Healthy Homes Initiative – Initial Analysis of Outcomes 2019:

xi Ministry of Housing and Urban Development Statement of Strategic Intentions 2019-23

xii Cost Benefit Analysis of the Warm Up New Zealand: Heat Smart Programme
http://www.motu.org.nz/assets/Documents/our-work/urban-and-


