



BRANZ's submission to **Defining Energy Hardship**

December 2021

About this survey

This survey seeks your feedback on MBIE's proposed definition of energy wellbeing and energy hardship, and how energy hardship should be measured at a national level in Aotearoa. Your views will contribute to the development of the Government's official definition and measurements.

MBIE's proposals are outlined in the Defining Energy Hardship Discussion Document. We recommend that you read the Discussion Document before filling out this survey for a broader understanding of the material. Each question will refer to a relevant section of the Discussion Document, which you can view on the consultation webpage. On the webpage you will also find a summary of the proposals and a short factsheet, which you can use to help fill out this survey.

You can only complete the survey once. You do not need to answer all the questions, only those which are important to you.

We will keep your information safe

The information provided in your submissions will be used to inform MBIE's development of a definition and measures for energy hardship, related policy development, and will inform advice to Ministers. It will also become official information, which means it may be requested under the Official Information Act 1982 (OIA). The OIA specifies that information is to be made available upon request unless there are sufficient grounds for withholding it.

Use and release of information

To contribute to transparency in our decision making, MBIE proactively releases a wide range of information. MBIE will upload copies of submissions to its website at www.mbie.govt.nz. By making a submission, MBIE will consider you to have consented to uploading, unless you clearly specify otherwise in your submission.

Your name, or that of your organisation, will be published with your submission on the MBIE website unless you clearly specify you do not consent to your submission being published. Other contact details you provide will not be made publicly available.

Personal information

All information you provide will be visible to the MBIE officials who are analysing the submissions and/or working on related policy matters, in line with the Privacy Act 2020. The Privacy Act 2020 includes principles that guide how personal information can be collected, used, stored and disclosed by agencies in New Zealand.

If your submission contains personally identifiable information that should not be made public, please make clear what can and cannot be made public. For example, information about other people that you are sharing without their consent or information about children.

Contacting you about your submission

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This information will be securely held by MBIE. Generally we keep public submission information for three years. After that, it will be destroyed in line with MBIE's records retention and disposal policy. You have the right to ask for a copy of any personal information we hold about you, and to ask for it to be corrected if you think it is wrong. If you'd like to ask for a copy of your information, or to have it corrected, please contact us at definingenergyhardship@mbie.govt.nz

1. Have you read and understood the Privacy Statement?

Yes No

About you**ABOUT BRANZ**

BRANZ, established in 1969, is a multidisciplinary, science led organisation that uses independent research, systems knowledge, and its broad networks to identify practical solutions that improve the performance of New Zealand's building system.

BRANZ has conducted much research addressing the built environment's contribution to wellbeing and has been helping to drive evidence-based policy by providing expert advice. BRANZ has led research into "warmer, drier and healthier homes" for over a decade. A key to achieving this is understanding the energy required to operate such a home.

From 1995-2005 BRANZ carried out the first (and only) Aotearoa New Zealand study into Household Energy End-use [HEEP1]. At the time Prime Minister Helen Clark was unequivocal about its value to New Zealand: "Policies which reduce energy use and greenhouse gas emissions while also meeting our needs for energy services need good base data on how, where and why energy is used. And that is why HEEP is so important." This project provided Stakeholders much data and evidence on which to base policy and interventions. These include Ministry of Social Development, Energy Efficiency Conservation Authority, Ministry of Business, Innovation and Employment and Ministry for the Environment.

Recognising that much has changed since the early 2000's in how we live in and operate homes, BRANZ is currently undertaking the second household energy end-use study [HEEP2].

We welcome the opportunity to talk further about this study and how we could work together to provide data to inform your energy wellbeing work.

2. What is your name?

Chris Litten

3. What is your email address?

Chris.Litten@branz.co.nz

4. Are you submitting as an individual or on behalf of an organisation?

Individual Organisation

5. If on behalf of an organisation, what is its name?

Building Research Association of New Zealand [BRANZ]

6. If on behalf of an organisation, which of these best describes it?

- | | |
|--|--|
| <input type="checkbox"/> Iwi, hapū or Māori organisation | <input type="checkbox"/> Energy retailer |
| <input type="checkbox"/> Energy regulator | <input type="checkbox"/> Energy distributor |
| <input type="checkbox"/> Registered charity | <input type="checkbox"/> Non-governmental organisation |
| <input type="checkbox"/> Local Government | <input type="checkbox"/> Central Government |
| <input checked="" type="checkbox"/> Academic/Research | <input type="checkbox"/> Other [please specify] |

Proposed Definition of Energy Wellbeing

In order to measure levels of energy hardship, we first need to come to an **agreed definition** of what energy hardship is. Aotearoa does not currently have a generally accepted definition of energy hardship, which has made it hard to measure over time.

The proposed definition is **aspirational**, meaning it defines what we are working towards [i.e. energy wellbeing]. Because of this, we define energy hardship as being the opposite of energy wellbeing.

The terms within the definition are explained in the image below. We have aimed for the definition to be **accessible** so that it can be used and understood by all New Zealanders. Also, the definition is **flexible** so it can be adaptable to changes in data availability.

For further information relating to these questions, see Section 3 of the Discussion Document.



7. To what extent do you agree or disagree that the proposed definition for energy wellbeing is right for Aotearoa?

[Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly disagree, Unsure]

Agree [please see Q8 for further comment on why]

8. Do you have comments on why have you chosen this answer?

- We acknowledge that "energy wellbeing" is a difficult to define. We commend MBIE for the previous Stakeholder engagement that has been carried out around this. We see that the feedback you have received is reflected in this proposed definition.
- We support using the term energy **wellbeing**, for the positive framing this provides. We feel that 'hardship' is disempowering.
- BRANZ supports the use of a descriptive definition that is not tied to any specific measures or thresholds.
- Learnings from the UK has shown that threshold-based definitions can be too restrictive and inadequately allow for the complex range of factors that contribute to energy wellbeing. The definitions adopted in the UK have not stood the test of time. The proposed descriptive definition for Aotearoa New Zealand on the other hand provides a sufficiently broad and aspirational approach. This will help ensure it is enduring, can be flexible for future options and can meet the needs of a wide range of organisations and agencies.

What is covered by the definition?

The proposed definition includes all types of energy that are used within a home, including (but not limited to) electricity, gas, wood and coal. These energy types are used for services that support wellbeing, such as cooking, lighting, heating and washing. The proposed definition also includes all dwellings where people live or stay, including marae and papakāinga.

9. To what extent do you agree or disagree with the inclusions in the proposed definition?

Agree

10. Do you have any comments on what is included in the definition?

- We support the inclusion of all household energy services beyond heating, which previous definitions of energy hardship have been limited to. This supports a holistic view of all the energy needed to support wellbeing in the home.
- As we transition to a net-zero carbon economy, consideration must be given to the role that an equitable transition can and should play in delivering energy wellbeing. For example, a requirement for charging electric vehicles at home, and the capacity of the household to participate in the transition (e.g.: through the installation of renewable energy or adoption of new technologies). The proposed definition allows for consideration of these alternate energy requirements.

What is not covered by the definition?

The definition focuses on places where people live or stay, so it doesn't include commercial energy consumption, or energy for transport. People who are sleeping rough or inhabiting improvised dwellings are not considered to be in energy hardship by this definition, but this does not mean they are overlooked. We recognise that their needs are not related to energy use within a dwelling, so their housing situation should be prioritised before focusing on their energy wellbeing at home.

We are proposing that transport energy is not included as an energy service in this definition, because it is used outside the home.

11. To what extent do you agree or disagree with what is excluded by the definition?

Agree (please see Q12 for comments on why)

12. Do you have any comments on what is excluded by the definition?

- In the context of "homes", we agree the focus should be on the places where people live or stay for this definition, and we agree with the proposed exclusions.
- We believe that the proposed exclusions around energy wellbeing, are picked up in other Government frameworks. Specifically, Statistics NZ (in conjunction with Ministry of Housing and Urban Development (MHUD)) have developed a framework for Housing Quality in Aotearoa New Zealand (Stats NZ, 2019) which does acknowledge the importance of housing location in supporting specific needs (physical, mental, emotional, cultural, social). Access to appropriate and affordable transport, particularly in the context of connectivity to services (e.g.: health, education, social, cultural etc) is essential to individual wellbeing. Given that housing quality is a key component of energy wellbeing, we see the two frameworks as being closely linked. The development of housing quality measures can support and enhance our understanding of energy wellbeing and vice versa.
- We strongly encourage MBIE to work closely with Stats NZ and MHUD to ensure that the two frameworks support and enhance their individual value.

Reference:

Stats NZ [2019]. Framework for housing quality. Retrieved from www.stats.govt.nz.

13. Do you have any further comments on the proposed definition of energy wellbeing?

- Is it clear and easy to understand?
- Do you think there is anything missing?
- Is it relevant to you and your community?

Is it clear and easy to understand?

- Mostly. We note there could be confusion around terminology, as the proposed definition and indicators are about energy wellbeing, but the measures proposed [discussed in Q19-23] are about energy hardship.
- We would encourage further consideration of how the definition and its associated framework, indicators and measures align with other Government initiatives. These initiatives include: MBIE's Building for Climate Change programme, Building Code updates, the Housing Quality Framework, Affordability measures, the Human Rights Commission Right to a Decent Home, and Healthy Homes Standards.

Taking a systemwide, holistic view is important for identifying linkages and avoiding possible conflicting outcomes or unintended consequences (please see our response in Q23 for more on this).

BRANZ has provided impartial evidence that supports many of these initiatives. We are well placed and prepared to support any activity that builds understanding of the system and interactions within.

Do you think there is anything missing?

- While we support the focus of this definition on residential housing (places where people live or stay), at BRANZ we are concerned with the impact of buildings on occupant wellbeing more broadly. This includes non-residential establishments, especially complex buildings like hospitals and prisons. We would support and encourage further research to consider how a wellbeing framework could be applied to these situations as well.

Is it relevant to you and your community?

- Yes. The broad definition and reference to wellbeing aligns with BRANZ's systemwide approach to champion a building system that delivers better outcomes for all.
- BRANZ undertakes research on the condition and performance of housing and impact of dwellings on occupant wellbeing. The definition has relevance to three key areas of research at BRANZ:
 - » *Warmer, Drier, Healthier Homes research programme.* The overall goal of this programme of research is to ensure all New Zealanders have access to a warm, dry, healthy home by 2030. Projects within this programme include the Household Energy End-use Project 2 (HEEP2); indoor environmental quality research; and utilising survey data to explore housing condition and occupant wellbeing.
 - » *Building for Wellbeing.* The aim of this research project is to develop and test a smartphone app designed to efficiently capture the self-reported perspectives of end users about the wellbeing performance of residential buildings. By doing so, the intention is to develop a wellbeing assessment and reporting method that is partly informed by the New Zealand Treasury's Living Standards Framework. Such technology has the potential to enable government agencies, such as Kāinga Ora, to assess and report their wellbeing impacts more efficiently and effectively. This four-year research project has recently been integrated into Auckland University of Technology's Te Hotonga Hapori research programme, which aims to investigate the wellbeing impacts of large-scale urban regeneration projects.
 - » *Transition to Zero Carbon Built Environment research programme.* The programme goal is that, by 2050, the building and construction industry is delivering net-zero carbon buildings in an affordable way. The programme encompasses several projects examining energy. These include operational carbon footprinting work; research on energy and carbon performance certificates; energy end-use of complex buildings (e.g., hospitals); and solutions for lower carbon buildings (e.g., innovative low-carbon residential water heating).

Proposed framework for energy wellbeing

A framework is an agreed way of thinking about something. We have developed an energy wellbeing framework based on engagement and research. This framework supports and expands on our proposed definition.

Our proposed framework shows the connected factors that can contribute to a household's energy wellbeing or hardship. People and their dwellings are at the heart of the framework. Each term in the framework is explained in Section 4.3 of the Discussion Document.

The framework will be used by MBIE to understand the factors of energy wellbeing or hardship, and how they might interact. This helps guide which factors we can target with different policies, as well as the aspects of energy hardship we can measure. This framework may also help other groups working to address energy hardship. For example, a community group might use it to communicate which parts of a household's situation they could assist with.

For further information relating to these questions, see Section 4 of the Discussion Document.



14. To what extent do you agree or disagree that the framework represents the factors that influence energy wellbeing in Aotearoa?

Agree [please see Q15 for comments on why]

15. Do you have comments on why have you chosen this answer?

- We could debate some of the terms used and/or placement within the framework, but we agree with the broad concepts identified as appropriate for this framework.
- The complex, multi-faceted, interrelated nature of issues that can affect an individual/households' energy wellbeing are captured. The framework unpacks the three key factors typically referenced in the context of energy wellbeing (household income, fuel prices and dwelling characteristics). For example, it expands on these to include concepts such as behavioural norms and energy, financial and digital literacy. We understand the 'wheel' is also intended to illustrate that these factors can be interrelated. For example, location [under 'Environment'] will affect household energy requirements, as well as energy sources available [under 'Energy Supply'] and fuel prices [under 'Energy prices'].
- We would like to see more emphasis on mātauranga Māori. Having Mauri ora at the centre of the model, like the Te Tatau o Te Arawa Housing Development Wellbeing compass, would be helpful in making the framework more Aotearoa New Zealand specific.

16. Do you have any other comments on the proposed framework? You may want to consider:

- The layout of the framework, and if it is easy to understand
- If anything is missing, or should be added
- Which factors you think are most significant in your community

The layout of the framework, and if it is easy to understand

- We recognise there are different ways this could be depicted and consider it more important that the contributing factors are identified, and the interrelated nature of issues acknowledged and understood. We feel that this is the case.
- We query some of the language and would suggest that MBIE consider the audience for whom this framework is intended. For example, terms such as 'culture and practices' and 'energy norms' might be familiar to policy analysts and researchers, but less suitable for communities working with households or households themselves.

If anything is missing, or should be added

- We understand the terms 'habitability' and 'functionality' (within Dwelling Characteristics) have been used to align with the Stats NZ Framework for Housing Quality. We support this linkage and alignment. However, we feel these terms need unpacking in the context of energy wellbeing. For example, just referring to 'habitability' does not give sufficient emphasis to the role energy efficiency or energy performance of the dwelling has in supporting energy wellbeing. We suggest this be made more explicit and the relevance of the terms 'habitability' and 'functionality' in the context of energy wellbeing is made clearer.
- The role of the energy sector also gets lost, as these issues are spread over different domains (such as service literacy and energy prices). Having an energy market that is easy to understand and navigate is an important factor contributing to (or preventing) energy wellbeing. The 'Energy prices' segment could be renamed 'Energy market' and include factors such as energy prices, retail plans, accessibility and navigability.

Significance to our work

- The framework highlights the complexity and multidisciplinary nature of energy wellbeing. Addressing energy wellbeing in Aotearoa New Zealand will require a cross-sector, multi-agency response. This aligns with BRANZ's strategic vision, to take a systems-thinking approach and work with others to develop and deliver initiatives and projects that support better outcomes for all. As an organisation we are committed to ensuring our work is shaped by the needs of others and drives behaviour change. We have identified several areas of BRANZ work that can support and inform understanding of, and responses to, energy hardship in Aotearoa New Zealand (for example, the Household Energy End-use Project). We are pleased to be working with MBIE on this and welcome the opportunity to expand our connections with others to support a cross-sector response.

Proposed indicators for energy wellbeing

We have proposed the following indicators of energy wellbeing to connect household outcomes to the energy wellbeing definition. We have used these indicators to consider how to measure energy hardship.

For further information relating to these questions, see Section 6 of the Discussion Document.

Theme	Energy wellbeing indicator
Able to obtain – access	Access to a reliable energy supply when needed
	Able to access and use technologies to manage energy, such as making online transactions.
Able to obtain – able to afford and manage bills	Able to afford energy bills without borrowing or economising on other expenses
	Able to heat, wash, cook and use other energy services as required to stay comfortable without having to forego other necessities
Able to obtain – enabling resources	A dwelling that can maintain a healthy temperature
	Access to necessary appliances that are safe, effective and efficient
Wellbeing is supported in the home or kāinga	A dry and well-ventilated home
	A healthy indoor temperature

17. To what extent do you agree or disagree with the proposed indicators for energy wellbeing?

Disagree [please see Q18 for comments on why]

18. Do you have comments on why have you chosen this answer? You may want to consider:

- Are the indicators comprehensive?
 - Are there any other indicators of energy wellbeing that should be considered?
-
- We support the overall approach of having key indicators underpinned by a suite of measures.
 - We have said 'disagree' as we believe some of the wording/structure [in Table 3 in the discussion document] could be revisited. This in part relates to being more explicit about the need to use heating, hot water, appliances, lighting etc to support wellbeing, a consequence of which is using energy.
 - For example, on 'able to obtain - able to afford and manage bills', we suggest being clearer about the three key requirements for using energy to meet household needs. Such as:
 - » Able to maintain a healthy temperature in the home [adequately warm in winter and cool in summer] without borrowing or economising on other expenses or having to forgo other necessities
 - » Able to access hot water to meet household needs without borrowing or economising on other expenses or having to forgo other necessities
 - » Able to power appliances and lighting to meet household needs without borrowing or economising on other expenses or having to forgo other necessities
 - On 'enabling resources':
 - » Dwelling is energy efficient
 - » Dwelling is in good condition [structurally sound, weathertight]
 - » Access to safe, efficient, appropriate heating, hot water and other necessary appliances to meet household needs
 - » Able to manage energy use and use energy efficiently to meet household needs [e.g.: understanding of healthy housing behaviours, switching retailer/plans, access to technology to manage bills etc]
 - On 'wellbeing is supported':
 - » Home is free from damp and mould
 - » Healthy indoor environment all year round
 - We would also recommend the indicators are tested with practitioners [e.g.: community-based certified Home Performance Advisors, such as members of the Community Energy Network], if the team has not already done so. This would help ensure the indicators are aligned with, and adequately represent, the ways in which energy hardship is experienced, observed and presents in reality. For example, would the proposed indicators help facilitate a certified home performance advisor in assessing the energy hardship status of a household? As the discussion document notes, the purpose of the definition and indicators is not only to "*measure levels of energy hardship across Aotearoa*", but also "*help target policy interventions and programmes*". This is an opportunity to develop indicators that provide useful and meaningful tools to support engagement with those vulnerable to or experiencing energy hardship.

Measuring energy hardship

Our starting point for measuring energy hardship has been to define energy wellbeing. When helping people in our communities it is important to focus on aspirations and goals. However, for lifting energy wellbeing it is important to also have measures of hardship so we can better understand how many households need support, and track whether programmes are making a difference to help households out of hardship.

We have proposed a set of primary and secondary measures of energy hardship. These measures will help us to track energy hardship at a national level in Aotearoa. They will also enable us to look at energy hardship across rough regional breakdowns and some different groups, although how well we can do this depends on what data the measure is based on.

For further information relating to these proposed measures, see Section 6 and Appendix C of the Discussion Document.

19. We are proposing to use a set of primary and secondary measures for energy hardship. Do you support this proposal? [Yes / No / Unsure]

Yes [please see Q20 for comments on why]

20. Do you have comments on why you have chosen this answer?

- The proposed approach of having a smaller selection of primary measures, supported by secondary measures is sensible.
- A complex issue like energy hardship requires a broad suite of measures to adequately capture the many ways it can affect individuals/households and present in different circumstances.

Proposed primary measures

The four primary measures are:

- Proportion of AHC household income spent on domestic energy costs is twice the median or more [moving line]
- Proportion of AHC household income spent on domestic energy costs is twice the median or more [fixed line]
- Put up with feeling cold to keep costs down a lot
- Dampness and/or mould problems – major

The first two measures come from the Household Economic Survey – Expenditure which is asked every three years. We propose that these measures are interim, and will be in place until a model for required energy for wellbeing is created.

The second two measures come from the Household Economic Survey – Core, which is asked every year.

21. To what extent do you agree or disagree with the proposed primary measures?

Disagree [we describe why in Q23 below].

Proposed secondary measures

The 22 potential secondary measures are shown here categorised by their data source and frequency. They are:

Census of Populations and Dwellings [asked every five years]

- No access to electricity supply
- No heating type used
- Use of unsafe substitute heating methods [portable gas heater]
- Lacking one or more basic amenity
- Damp always

Household Economic Survey – Core (asked every year)

- No home access to computer or internet
- Could not pay electricity, gas, rates, or water bills on time (more than once)
- Unable to afford unexpected expense without borrowing
- Cannot afford to keep the dwelling adequately warm
- Major problem heating accommodation and/or keeping it warm in winter

Household Economic Survey – Expenditure (asked every three years)

- No access to financial institution account
- Absolute domestic energy expenditure half the national median or less (moving line)
- Proportion of BHC household income spent on domestic energy costs twice the median or more (moving line)
- Proportion of BHC household income spent on domestic energy costs twice the median or more (fixed line)

General Social Survey (asked every two years)

- Can see breath indoors in winter
- Indoors always colder than would like in winter
- Mould larger than an A4 - Always
- Housing repairs needed – major

General Social Survey - Housing and physical environment supplement (asked every six years)

- Not heating own bedroom in winter
- Not heating children's bedroom in winter
- Not heating main living room in winter

Electricity Authority data (available annually)

- Use of prepayment metering

22. To what extent do you agree or disagree with the potential secondary measures?

Disagree (we describe why in Q23 below).

23. Do you have any comments on the proposed primary and secondary measures? You may want to consider:

- How many primary and secondary measures you think we should consider
 - Which measures you think should be primary or secondary (and why)
- We agree with the proposed approach to have a suite of measures that include both objective and subjective measures.
 - Measures of housing standard (quality/condition and energy performance/efficiency) should be primary. Addressing the poor quality and energy performance of our housing stock is critical for improving (energy) wellbeing.
 - Even though the measures using actual spend are proposed as interim measures, we would query why they are proposed at all, particularly as primary measures. The MBIE discussion document accurately articulates: "*domestic energy expenditure as a proportion of income is not considered a reliable measure of energy hardship without some measurement of the thermal efficiency of the dwelling*" (p27). We agree with this statement.
 - Therefore, instead of using the proposed expenditure measures, even in the interim, we'd recommend and support a codesign, cross-sector approach to:
 - Review the proposed indicators and measures to ensure they are relevant and appropriate for Aotearoa New Zealand at the macro- and micro-level.*

- Having appropriate, relevant, meaningful measures designed for Aotearoa's unique situation should be the priority, over and above international comparability and current data availability.
- ii. *work towards measure(s) of housing quality and energy performance and methods for assessing these*
- BRANZ was involved in the development of the Framework for Housing Quality with Stats NZ and MBIE (and latterly MHUD), and we would welcome the opportunity to progress this. There are clear links between the housing quality and energy wellbeing frameworks, and measures should be developed that are consistent and can support both programmes of work.
 - BRANZ has undertaken research into energy and carbon performance certificates. Such an initiative could play a key role in understanding the performance of our housing stock, identifying opportunities for retrofit and extent of/impact on energy wellbeing. We would welcome the opportunity to work with MBIE and other cross-sector stakeholders to progress this work.
 - Related to exploring the potential for energy performance certificates in Aotearoa, we would advocate exploring opportunities for improving consistency in how information on building performance and/or condition is currently collected. A wide range of organisations routinely collect data on housing, for example through surveys, home energy checks, home visits, evaluation programmes etc. At present, organisations (BRANZ included) have to develop their own tools and approaches to data collection and evaluation. Whilst there must remain flexibility to ensure each organisation can meet its own needs, there is significant potential added value in striving for some consistency and/or provision of tools. This could help alleviate the burden on individual organisations, improve efficiency and cost-effectiveness, whilst also providing consistent data and information that can inform our understanding of energy hardship across Aotearoa.
- iii. *Explore other possible (existing and not) data and information sources, rather than limiting the selection to existing official data collections.*
- Related to the point above, we would like to see and support broader consideration of existing data sources and explore how these can be developed to meet MBIE's reporting and statistical requirements.
 - For example, the discussion document notes: *"There is also relevant and helpful information in some data sources that are not continuous but one-off collections. [...] Since these are not regularly undertaken, they are not suitable for a national measure to track levels of energy hardship..."* [p32]. BRANZ is a key stakeholder delivering some of these datasets (such as the House Condition Survey/Pilot Housing Survey and HEEP), with support from MBIE. The discussion document notes HEEP2 will provide key insights into household energy use. MBIE is not proposing HEEP2 as a data source for measures of energy hardship *"as frequency and future data collections are yet to be confirmed"*. BRANZ is committed to ensuring our research is aligned with government priorities and can support national statistics. We welcome the opportunity to work with MBIE and others to explore and develop approaches that would overcome this stated barrier to using data such as HEEP to support official measures. For example, with cross-agency commitment, funding and buy-in, 'one-off' data collections could become essential, continuous datasets.
 - While we understand and support the requirements for reporting of government statistics, energy hardship is a complex issue. As the proposed framework outlines, there are a multitude of factors that can affect a household's vulnerability to/ experience of energy hardship/wellbeing. Many of these issues are not well covered in national surveys nor by statistics, but are well understood by NGOs, community groups, Whānau Ora Navigators and others delivering energy hardship interventions. For example, BRANZ has worked closely with the Home Performance Advisor network for many years. The insights they can provide into the lived experiences of households is critical to understanding energy hardship throughout Aotearoa and needs to be included in the measurement framework.
 - These groups are reaching some of the most vulnerable, marginalised communities. From our experience of undertaking national housing surveys, and based on feedback from our assessors, we are aware these populations are likely to be under- or un-represented in national data collections.
 - This is also acknowledged in the discussion document. *"There is likely to be a range of levels and factors driving*

energy hardship in different locations, which will not be shown by a national average. We are interested in investigating levels and drivers of energy hardship in different locations. Currently, regional data is limited except for indicators based on Census data" [p46]. We agree with the first sentence, but not the last. There is a wealth of information held at the local level, by those embedded within the community. MBIE must include this data within this framework.

- There is also significant value in incorporating qualitative data, to provide deeper insight into the stories and experiences of those living in or vulnerable to energy hardship. BRANZ's view is that there is a lack of customer focus (the customer being the building inhabitant or the community) in the construction sector in measuring industry performance and an overemphasis on technical, quantitative performance measures. This sits uncomfortably with government wellbeing objectives that require a more qualitative approach. This is an important distinction that can result in the subjective experiences of building occupants being overlooked in favour of a checklist assessment of physical building components and features. Without careful consideration of qualitative (or lived) experience, the same issue may impact government attempts to measure energy wellbeing.
- We should also be thinking about energy hardship in the context of Aotearoa New Zealand's transition to zero carbon. How is this captured within the current framework, indicators and measures? How does the energy hardship programme of work relate to other government initiatives, such as the Building for Climate Change (BfCC) programme? Learning from the UK has shown that how policies and interventions are designed and delivered is critical to the success of a transition that is both effective and fair (Preston et al, 2013). The development of sustainable energy sources and improving the energy efficiency of our housing stock can help in this transition, whilst also alleviating energy hardship and achieving energy justice (Thumim et al, 2014). This aligns with one of the objectives of the BfCC programme on transforming operational efficiency to improve comfort, health and wellbeing.

Reference:

Preston, I. White, V. Thumim, J. Bridgeman, T. & C. Brand (2013) [Distribution of Carbon Emissions in the United Kingdom: implications for domestic energy policy](#). London, UK: Joseph Rowntree Foundation.

Thumim, J., White, V., Bridgeman, T., Searby, G., Hinton, T., Tiffin, R., Roberts, S. [Research on fuel poverty. The implications of meeting the fourth carbon budget](#). Report to the Committee on Climate Change. Bristol, UK: Centre for Sustainable Energy

Depth of energy hardship

As well as measuring how many households are experiencing a measure of energy hardship, we are also looking into ways we can measure the depth of energy hardship. This is to determine where households in Aotearoa are on the energy hardship/wellbeing continuum. For example, statistics could show the number of people in energy hardship, and also the number in severe energy hardship. This is to determine the extent to which people are experiencing energy deprivations, and to be able to estimate how far away from energy wellbeing we are (the energy hardship 'gap').

We plan to undertake further analysis looking at the depth of energy hardship. We are interested in hearing your thoughts on how depth of hardship should be measured.

For more information see Section 6 of the Discussion Document.

24. Do you have any comments on measuring the depth of hardship? You may want to consider:

- If we should use these measurements in Aotearoa, in addition to the primary and secondary measures
- Combining measures [i.e. a DEP-17 style approach]
- Measuring the energy hardship gap

- A measure of depth of hardship that helps quantify the scale of the problem and direct resources/funding/support to where and how it is needed could have merit. However, it is important it has meaning and practical application, rather than simply becoming another statistic and adding unnecessary complexity. We would therefore encourage and support further research into this concept to determine the value-add a measure of depth of energy hardship would provide for Aotearoa.
- For example, what can be learned from the UK's experience of measuring the fuel poverty gap? What value did this add and what difference did it make for policy? Did it facilitate better and more targeted support and investment to address energy hardship? Or, was it just another measure to report, that had no impact on addressing the problem?

Data gaps and proposed way forward

In sections 7 and 8 of the Discussion Document we describe the limitations and gaps in current data, and some ways these could be improved upon, as well as some plans for future analysis.

We are interested in hearing what you think is most important to focus on next.

25. Please rank the following proposals in order of what you think is most important [1] to least important [4].

1. Further analyse any currently available data
2. Work to fill existing data gaps/limitations
3. Model required energy use for households in Aotearoa
4. Research energy hardship-related indicators

BRANZ ranking:

- [1] Research energy hardship-related indicators
- [2] Model required energy use for households in Aotearoa
- [3] Work to fill existing data gaps/limitations
- [4] Further analyse any currently available data

Please see Q26 below for further explanation and expansion on this response.

26. Do you have any suggestions for alternatives or changes to the proposed way forward? You may want to consider:

- Are there gaps in the measurement we haven't identified?
 - Are there data sets or measures you know of that should be included?
 - Do you have any other suggestions for future analysis?
- We have ranked the options proposed above but recommend these be reconsidered as explained below.
 - *"Research energy hardship-related indicators"* should be expanded to *"Research **and co-design** energy hardship related indicators"*. The energy hardship indicators should be co-designed with stakeholders, with cross-sector representation (e.g., NGOs, community organisations, Māori and Iwi, as well as academics, research organisations etc). Co-designing is the best way to ensure they are relevant, meaningful, appropriate and supported.
 - Before we can *"Model required energy use for households in Aotearoa"* we need to first explore and understand what this model should look like for Aotearoa. There are several ways to approach energy modelling, with trade-offs in complexity, accuracy, data collection intensity/cost vs simplicity, transparency and practicality. We would welcome the opportunity to work with MBIE and other key stakeholders to explore the best approach for assessing required household energy for Aotearoa New Zealand. This should include practical considerations (e.g., what data would be required and how this could be collected), and applicability (e.g., how model outputs could be used), at the national and householder level. We see synergies here with initiatives such as energy performance certificates and home energy checks. For HEEP2, we have based our

building survey on a residential energy efficiency assessment tool developed in Victoria, Australia. This means HEEP2 data could be used to provide an energy efficiency assessment, as well as providing the data necessary for reporting on housing at the national level. We are keen to explore this further and its possible application in New Zealand.

- Before undertaking “*Work to fill existing data gaps/limitations*” we would like to see wider consideration and exploration of existing data. This should include looking beyond official data collections to better understand the extent, depth and breadth of information and data that exists/is collected across Aotearoa in relation to energy hardship/wellbeing. As discussed above, BRANZ holds data and undertakes national surveys on housing condition and energy use. We would welcome the opportunity to work with MBIE and other key stakeholders to develop a model by which these data collections can support government reporting on energy hardship and housing quality. Also as discussed above, we are aware that there is a wealth of data collected by practitioners undertaking home energy checks and delivering energy hardship interventions. We would support, and like to be a part of, further work to understand what data is collected, how it is collected [e.g., tools that exist] and explore how this could contribute to informing our understanding of energy hardship throughout Aotearoa.
- In terms of “*Further analysing any currently available data*”, we would suggest the BRANZ/Stats NZ-MBIE Pilot Housing Survey (PHS) – General Social Survey (GSS) linked dataset and HEEP1 data. The former, which is available in the Stats NZ Data Lab, could be further analysed to explore possible measures of housing condition/energy performance, alongside subjective measures and wellbeing indicators. The HEEP-1 dataset includes all the information necessary to start developing / testing ideas around modelling energy requirements and comparing with actual consumption. HEEP-2 data will be available longer term to support this work.
- The PHS-GSS data was originally intended to be used to explore the potential for housing quality measures. As mentioned previously, we see housing quality measures as a critical component of understanding and measuring energy hardship. We welcome the opportunity to work with MBIE, MHUD and Stats NZ to support and help progress this work.
- Is there further scope to obtain data collected by the electricity industry (retailers)? This seems a gap in the current referenced sources and measures [e.g., information on debt, disconnections, missed or late payment?].

Reference:

Victoria State Government [2021]. [Residential Efficiency Scorecard](#)

White, V. [2020]. *Assessing the condition of New Zealand housing: Survey methods and findings*. BRANZ Study Report SR456. Judgeford, New Zealand: BRANZ Ltd

Final thoughts

27. Do you have anything else you would like to mention?

- We support the proposed definition and general approach of having a suite of indicators and measures. However, we believe that the latter [indicators and measures] would benefit from further co-design, in conjunction with the energy hardship Expert Panel and Reference Group, ensuring cross-sector representation.

28. Can we publish your submission on the MBIE website?

If your submission contains personally identifiable information that should not be made public, please make clear what can and cannot be made public. For example, information about other people that you are sharing without their consent or information about children.

Your name, and that of your organisation will be visible. Email addresses will not be visible.

Yes