



23 APR 2018

Hon Simon Upton
Parliamentary Commissioner for the Environment
PO Box 10 241
WELLINGTON 6143

Dear Simon

Thank you for your letter of 28 March 2018 to Hon Phil Twyford and myself requesting information on the actions taken by the Ministry of Business, Innovation and Employment (MBIE) in response to the climate change issues highlighted in *Our atmosphere and climate 2017* (Ministry for the Environment and Statistics New Zealand).

I have outlined below the range of activities being undertaken by MBIE in the building and construction, and housing and urban development portfolios in response to climate change issues. The work programme in both of these portfolios continues to be refined and we anticipate an increasing focus on climate change issues as part of the future building and housing and urban development programmes undertaken by MBIE.

Question 1: What work is the Ministry doing to ensure that the design and construction of the country's dwellings, buildings and infrastructure incorporates climate mitigation aims and objectives?

MBIE's work programme recognises that building and construction are complex systems where a range of factors affect the greenhouse gas emissions generated by the built and urban environments. These include how a building is built, how far it is from transportation networks, what products and materials are used in its construction, how it is used, and how its electricity is generated.

The Government has launched the Urban Growth Agenda (UGA), which is co-lead by MBIE with the Ministry for the Environment, to enable the planning system to be more responsive to growth by addressing the fundamentals of land supply, development capacity, and infrastructure provision. Good urban development and planning can provide substantial gains in terms of the impact that building and construction has on climate change objectives and ensuring that our cities are designed to minimise emissions.

One of the objectives of the UGA is to assist emission reductions and build climate resilience. This sits at an equal level with the other objectives of the UGA: to improve housing affordability, underpinned by affordable urban land; improve choices for the location and type of housing; improve access to employment, education and services; and support quality built environments.

The primary focus of the Building Code is to establish minimum building standards for new builds. These standards ensure that people who use buildings can do so safely, that a building contributes to people's health and well-being, and that there is sustainable development and energy efficiency.

New builds can achieve significantly higher performance than the minimum specified allowing building design to respond to climate change mitigation or adaption by sector participants developing new construction approaches (namely, alternative solutions).

MBIE is working to make changes within the building regulatory system, particularly in regards to ensuring there are no barriers to innovation, which in turn will support a greater focus on sustainability and have a positive impact on reducing emissions over time.

MBIE's priority is to ensure the building regulatory system is well-placed to support KiwiBuild, and this work will ensure that there are clear pathways through the building consenting system for innovative building products, designs and methods.

Clearer consenting pathways will support the sector's adoption of low-emissions products, design and construction approaches. In the interim there are already elements of the building regulatory system that enable innovation and the adoption of new approaches that can support reductions in the climate change impact of building and construction. For example, the product assurance system for new products and methods, CodeMark, can assist with making green building products and processes more accessible to the average builder, and easily accepted for use by all building consent authorities.

The Building Code imposes the minimum standards for building thermal efficiency, lighting, and ventilation. Individuals and developers can design and build to a higher level than the Code to meet society's goals of reducing the impact of climate change, and MBIE provides information to encourage and support above-Code minimum design practices and product choices through its SmarterHomes website www.smarterhomes.org.nz/

MBIE is supporting research to fill critical evidence gaps and improve its understanding of the role buildings and the building regulatory system can play in supporting climate change mitigation in New Zealand. One example of this is supporting the research of BRANZ who are investigating whether the current Building Code requirements for residential buildings for energy efficiency, ventilation and internal moisture are optimal. BRANZ is also investigating if changing the settings for any one clause of the Building Code could have unintended consequences on the other clauses.

Question 2: What work has the Ministry done or is planning to do with other government agencies to address where greenhouse gas reductions require co-ordinated actions from multiple stakeholders?

MBIE is undertaking significant work with other government agencies to address where greenhouse gas reductions require co-ordinated actions from multiple stakeholders.

As part of this MBIE is working with the cross-government Transition Hub based in the Ministry for the Environment to co-ordinate advice to set New Zealand on a pathway to a low emissions economy, contribute to advice on the choices available to meet our Paris targets, and set future targets. This work includes contributing information and

assumptions to governmental modelling work on transitioning to a low emissions economy for the Zero Carbon Bill, contributing to the review of the NZ Emissions Trading Scheme and providing policy perspectives and information on MBIE's levers to assist with transition to a low emissions economy.

Additionally, the Government has instructed MBIE, as a priority, to begin co-ordinating planning required for work on a *just and inclusive transition*. This work will include looking across energy, regional economic development and workforce planning, as well as more broadly across other government levers such as the skills system to determine how an inclusive transition can be considered and addressed. The scope, outputs and timing of this work are currently being determined.

Question 3: What is the Ministry's approach to dealing with the risks that climate change poses to New Zealand's dwellings, buildings and infrastructure? Is any work being done to estimate the cost of these risks?

MBIE is supporting comprehensive research through three National Science Challenges (NSC) that will support MBIE's approach to making changes in the built environment to mitigate and adapt to climate change, namely:

1. *Building Better Homes, Towns and Cities – Ko ngā wā kāinga hei whakamāhorahora*: this is hosted by BRANZ and seeks to improve the quality and supply of housing and create smart and attractive environments through an improved housing stock, meeting future demand for affordable housing, taking up innovation and productivity improvement opportunities, improving current and future urban environments and resident's well-being, and better systems for improved land-use decisions. This challenge does not have a specific climate change program in its portfolio
2. *Resilience to Nature's Challenges – Kia manawaroa - Ngā Ākina o Te Ao Tūroa*: enhancing New Zealand's ability to anticipate, adapt and thrive in the face of ever-changing natural hazards. Working closely with research users, the Challenge is developing technical resilience solutions and applying them in high-priority geographic and economic settings
3. *The Deep South – Te Kōmata o Te Tonga*: which is developing a New Zealand climate system model, tools and interpretation that will form the basis for understanding the way climate change will impact New Zealand, and inform the changes that we as a country will need to make to where we build and the way we build.

As more information emerges from these three NSC research programmes, MBIE, through supporting additional targeted research programmes, will be able to accurately evaluate the types of changes that need to be made to building design and construction methods as well as to the building regulatory system (for example, changes in structural design to new wind loads, thermal efficiency, building for increased flooding risk etc.). Estimates of possible climate risk mitigation costs for building design and location can then be developed for national, regional and local levels.

Question 4: What work is the Ministry doing to ensure that our dwellings, buildings and infrastructure will be adapted in a timely and effective manner to the impacts of climate change?

The KiwiBuild programme and the UGA provide an opportunity for MBIE to evaluate how government can successfully encourage and produce homes and buildings that simultaneously support New Zealand's move to low carbon emissions as well as being resilient and adaptive to the impacts of a changing climate. In particular, we will progress a set of large scale urban development projects as part of this work in Auckland and other high growth urban areas. These large scale urban development projects will offer an ability to showcase a variety of efficient and environmentally sound building processes which, at the scale of KiwiBuild, could be used to leverage accessibility of such products and processes to the sector.

The long life of a building requires a level of flexibility in a performance-based building regulatory system and any change to minimum standards has long lasting implications for New Zealand's building stock. Research is critical to support the development of new standards and requirements, and current research will enable MBIE to develop good models of climate change impacts and identify the required changes to ensure New Zealand's built environment will be resilient to climate change. The current focus for MBIE is ensuring that it has a sound understanding of climate change impacts. Once this information becomes available, MBIE can work with local authorities and stakeholders to ensure that the building regulatory system is modified to adapt to climate change.

A key area for consideration will be identifying how MBIE can support adaption of existing building stock to climate change (as the Building Code standards only applies to new builds and there are currently limited regulatory levers to require existing buildings to be modified/adapted). The building and construction sector will play a big part in the changes that you have identified, to enable this we will continue to work alongside the sector to ensure that they have the products and processes they need to innovate.

Question 5: What work has the Ministry done or is planning to do with other government agencies to address issues where effective adaptation responses require co-ordinated actions from multiple stakeholders?

In order to build localised responses MBIE will use information sourced from the current NSC research findings, as well as research from BRANZ and other research organisations. This information will feature in further studies to determine the timing and nature of MBIE's building and construction climate adaptation activities.

Research will help build effective modelling which in turn will help MBIE and the sector understand the timing and scale of climate change impacts. This will determine the speed and types of changes needed to the building regulatory system (e.g. Building Code, consenting pathways, product assurance system). Any proposals will also need to meet the different needs of localised New Zealand environments that are likely to experience varying impacts from climate change, which may necessitate bespoke local standards for building and construction to ensure effective adaptation.

Minister Twyford and I look forward to meeting with you to discuss climate change issues and the current (and future) responses that are being made in the housing, building and construction space.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Jenny Salsea', with a stylized, cursive script.

Hon Jenny Salsea
Minister for Building and Construction

cc Hon Phil Twyford, Minister of Housing and Urban Development