

A low-emission future

“Motu... lays out how in coming years every Kiwi can have access to secure, affordable, clean and resilient power for their businesses and homes, and transport for people and goods.”

Rod Oram, Sunday Star Times, 1 May 2016

Since 2013, Motu has worked on the multi-disciplinary programme “Shaping New Zealand’s Low-Emission Future”. This involves significant research, stakeholder dialogue, and international exchange to explore New Zealand’s potential pathways, policy options and practical actions for transitioning to a successful low-emission economy.


This booklet highlights some of the work that has emerged from the programme. More information is available from <http://motu.nz> and from our blog, New Zealand’s Low-Emission Future, at <http://low-emission-future.blogspot.co.nz/>.

Leining, Catherine, Suzi Kerr et al. 2016. *[“New Zealand’s Low-Emission Future: Transformational Pathways.”](#)* Motu Note 23. Wellington: Motu Economic and Public Policy Research.

New Zealand has challenging emission reduction targets for 2030 and 2050, and will face increasing international pressure to decarbonise its domestic economy during the second half of the century. New Zealand’s approach should be adaptive, responding to changes in technology, economic development opportunities, social norms and domestic and international circumstances.

This document presents a synthesis of ideas that emerged during the course of nine meetings by a group of 20 cross-sector stakeholders. Convened by Motu, the group explored pathways to achieving zero net greenhouse gas emissions in New Zealand. Participants engaged in their personal capacity, not as organisational or sector representatives.

This work suggests a successful zero-net-emission economy lies within New Zealand’s reach, and any number of pathways could take us there. This document presents ideas for a new climate change narrative for New Zealand, explores pathways for sectoral transformation, and identifies options for stakeholder engagement and collaborative decision making on climate change policy and action.



*What we do matters.
The choices we make today
safeguard our future.*

Leining, Catherine and Suzi Kerr. 2016. “[*Briefing: An Integrated Framework for Stakeholder Processes on Climate Change Mitigation.*](#)” Briefing paper to Government. Wellington: Motu Economic and Public Policy Research.

An integrated framework for stakeholder processes should address three distinct functions: technical advice, agreement on goals and strategies, and collaborative action. It should leverage existing processes and expertise, enable diverse participation, improve information sharing, encourage experimentation, stimulate creative problem solving, and underpin the national mandate for ambitious mitigation action. This framework should be agile and enduring.

A central cross-sector leaders group could help to build relationships among decision makers; develop shared understanding of mitigation opportunities, risks and constraints across sectors; and achieve broad consensus among sector leaders on core goals and high-level strategies and pathway choices for decarbonising New Zealand’s economy. This requires a clear mandate to influence decision making, a solid information base, adequate motivation and resources for stakeholders to participate, and strong leadership.

*Collaboration
and leadership need frameworks
to be effective*



Leining, Catherine, Suzi Kerr et al. 2016. *[“Idea Bank of Pathway Milestones for New Zealand’s Low-Emission Future.”](#)* Work-in-Progress Document. Wellington: Motu Economic and Public Policy Research.

This document contains detailed ideas offered by dialogue participants in the spirit of sparking discussion, not as recommendations. While acknowledging the vital role that forestry will play, participants focused on the stationary energy, land transport and agriculture sectors.

Participants in the dialogue group worked back from a broad vision for a thriving zero-net-emission economy, translating it into a range of potential sector characteristics, milestones and actions covering technology, policy, business and behaviour change that would underpin that economy.

The Transformational Pathways Framework includes breakthroughs in technologies and practices across key sectors. These will be supported by enabling infrastructure and shifting demand away from emissions-intensive goods and services. Residual emissions can then be offset by forest sinks, carbon capture and storage (CCS) or other means.



*Practical steps for
energy, transport, and ag
to make change happen.*

Allan, Corey and Suzi Kerr. 2016. [*“Who’s Going Green? Decomposing the Change in Household Consumption Emissions 2006 – 2012.”*](#) Motu Working Paper 16-20. Wellington: Motu Economic and Public Policy Research.

The average New Zealand household’s emissions fell 11% between 2006 and 2012, mostly because the production of some high-emissions goods is creating fewer greenhouse gases.

How much a household spends, and who lives in it explain nearly 70% of the variation in emissions across households. The relative importance of the different categories changes with a household’s income. Food emissions make up roughly 40% of emissions no matter the household income. Utilities contribute about 30 percent of emissions for poorer households but just over 20% percent for the wealthiest households. The importance of transport emissions increases as households become wealthier, with the share rising from about 20% to about 25%. However, it’s not just the level of expenditure that is important in determining emissions; the choices households make about what goods to consume also have large impacts.




*Power, transport, food.
Producers’ emissions are
improving. Your turn.*

Leining, Catherine and Scott White. 2015. *“From Fact to Act: New Zealanders’ Beliefs and Actions on Climate Change.”* Motu Note 19. Wellington: Motu Economic and Public Policy Research.

This survey showed that at least 87% of New Zealanders are at least somewhat concerned about the effects of climate change on society in general. 63% are concerned or very concerned about the societal effects of climate change and 58% are concerned or very concerned about the personal effects.

A strong majority of New Zealanders are taking some household emission-reduction actions such as installing low-emission household products, conserving water and reducing their home energy use. Fewer reported intentions to reduce car or air travel or avoid or reduce consumption of meat and dairy products, activities which contribute significantly to New Zealanders’ household consumption emissions. Less than half are convinced their actions can make a difference on climate change. Respondents are more likely to take household mitigation actions if they believe climate change is likely to have a big impact on people like them, and less likely to take those actions if they feel powerless to reduce the effects of climate change. There is some evidence that perceived effectiveness of personal actions to reduce climate change and perceived likelihood of climate change impacts on people like oneself act as substitute motivators rather than complementary motivators.



*Most New Zealanders
Worry about the climate.
Can we really help?*

Meduna, Veronika. 2017. “[New Offset Options for New Zealand.](#)” Motu Note 25. Wellington: Motu Economic and Public Policy Research.


This report synthesises the current state of scientific knowledge around the issues associated with three innovative carbon reduction or removal options in a New Zealand context:

- soil carbon,
- marine carbon, and
- carbon capture and storage.

It draws on literature and a series of interviews with key New Zealand researchers.

*Storing carbon down
below ground and in the sea
makes a better world.*





*Motu means “island.”
Our research rises above
uninformed debate.*

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More information is available from <http://motu.nz> and from our blog, New Zealand’s Low-Emission Future, at <http://low-emission-future.blogspot.co.nz/>.