

Solutions for Freshwater Management: A New Motu Work Programme

In the last three years, issues of declining water quality and over-allocation of freshwater have surged in importance both inside and outside of government. Eighty-two percent of New Zealanders now say they are extremely or very concerned about the state of New Zealand's waterways.

The unease of voters and policy-makers is well founded. According to government data, 60 percent of New Zealand's rivers and lakes are now unswimmable, and most regions have at least one river or aquifer that is either fully or over-allocated, or likely to become so in the next one to five years. This directly undermines New Zealand's claim to be "100% pure." Further pressures on our water resources will be driven by economic development, population growth, and climate change. Decisions on freshwater policy will have flow-on effects for urban and rural development, biodiversity conservation, and renewable energy production.

So what is to be done? Although technology may offer some opportunities to address issues of declining water quality and over-allocation, it is the human component of water management that is likely to determine the relative security of New Zealand's water future. To conserve our freshwater resources, we must engage experimentation, innovation, information sharing, dialogue, and collaboration across sectors and stakeholders to increase the likelihood that New Zealand delivers freshwater policy that improves the wellbeing of all New Zealanders.

Introducing Motu's freshwater work programme

Motu Economic and Public Policy Research is launching a new freshwater management work programme. It will apply rigorous research and stakeholder dialogue to develop practical, evidence-based economics and policy solutions to freshwater management challenges in New Zealand. Currently New Zealand suffers from significant knowledge gaps regarding how communities benefit from, depend on, use and affect our freshwater environment, and how freshwater management can be optimised through the design of economic and policy instruments.

The long-term outcome from our work will be strategic and sustainable freshwater management underpinned by an integrated policy framework that is dynamic, intergenerational, and grounded in evidence. We know that achieving this is possible, but there is no "quick-fix." Instead priority must be given to conducting robust research, socialising the results, and ensuring that we build technical, institutional, and social capacity in freshwater economics and policy in New Zealand. The multi-year work programme will be implemented in stages and deliver specific outputs at each stage.

Stage 1 will be an evaluative stocktake of New Zealand's research and policy design on the use of economic policy instruments to improve water quality and address water scarcity concerns, as well as any institutional barriers currently hindering the wider use of certain policy tools. Specific deliverables will include:

- A **Motu Working Paper** designed to inform near-term government policy making and lay the foundation for future activities
- **Outreach** (seminars, blog posts, etc) aimed at socialising findings and educating various stakeholders about ways to engender long-term behavioural change
- **Building capacity** by engaging early career economists and policy makers in the research process.



Stage 2 will involve launching a New Zealand Water Economics and Policy Dialogue supported by deeper research and engagement. Using Motu's proven model, the Dialogue will bring together a strategic group of stakeholders and technical experts from government, academia, the private sector, and NGOs for a series of in-depth discussions on how economics could be used to advance New Zealand's water policy agenda at the catchment level. Specific deliverables will include:

- A series of **three workshops** focused on stimulating 'blue sky' thinking on where New Zealand could find the 'big shifts' in stimulating resilient change in water management
- A resulting **Motu Working Paper** that collates results and contributes to a growing evidence base on freshwater economics and policy
- **Outreach** to socialise the findings with a wider range of stakeholders and citizens to build awareness around the variety of policy tools available for effective water governance.

The Dialogue will be designed to complement the government's Essential Freshwater consultation process and will put economics in the centre of the water policy debate for the first time in New Zealand.

Stage 3 will include basic and applied research on issues emerging from the Dialogue, development of a catchment-level model for simulating water-use policy options, and design of an integrated policy package for freshwater quality and quantity that could be scalable and/or transferrable. These activities will be supported by engagement across a network of national and international water economics and public policy experts focused on improving water management outcomes in New Zealand. The project will promote international exchanges among technical experts and emerging researchers, both to and from New Zealand. In this regard, Motu has held preliminary discussions with the water team at the US-based Environmental Defense Fund and identified mutual interests in collaboration.

A proven model for policy transformation

The freshwater work programme applies a model for policy transformation used successfully in Motu's Low-Emission Future (LEF) programme with funding support from the Aotearoa Foundation. When the LEF programme started in 2013, New Zealand policy makers and stakeholders were focused on least-cost compliance with near-term international targets, not the strategic long-term decarbonisation of New Zealand's economy. The New Zealand Emissions Trading Scheme (NZ ETS) was poorly understood, negatively perceived, and underperforming.

Motu launched a multi-year research programme on the history and evaluation of the NZ ETS, and two cross-sector stakeholder dialogues. The LEF Dialogue explored transformational pathways toward a net-zero-emission economy with practical milestones and actions in the stationary energy, transport, and agriculture sectors. The ETS Dialogue developed an integrated policy package for NZ ETS reform through managing unit supply, emission prices, and overseas mitigation. A series of e-Mission Possible roundtables carried the results to broader audiences.

The outputs were evidence based, clearly documented, and well understood by key stakeholders. As a result, they influenced pivotal climate change mitigation studies by the Royal Society, Productivity Commission, and Parliamentary Commissioner for the Environment, and these in turn shaped the development of the Zero Carbon Bill and forthcoming NZ ETS amendments.



It has taken time, but Motu's systematic, research-based, and sustained approach to policy design and stakeholder engagement has delivered valuable results. In February 2019, Motu surveyed stakeholders on its climate change mitigation work over 2017-2018. The survey had 104 respondents. Key findings included:

- Ninety percent of respondents regard Motu as a credible source of independent expert information on climate change mitigation, and 86% consider that Motu has enhanced the quality of policy discussion on climate change mitigation.
- Motu has influenced climate change policy development in New Zealand, with 68% agreeing or strongly agreeing in the case of its work on emissions trading and 66% in the case of its work on low-emission pathways. This compares with 48% and 39%, respectively, in 2016.
- Motu's main stakeholder engagement initiatives over 2017-2018 – the e-Mission Possible roundtables and ETS Dialogue – received very positive feedback from participants. In the case of the roundtables, 92% reported they increased their understanding of the issues and 84% would recommend them to a colleague. These figures were 84% and 79% in the case of the ETS Dialogue.

More about Motu

Motu is among the top ten economic think tanks in the world and is the top-ranked economics organisation in New Zealand, according to the Research Papers in Economics website, which globally ranks all economists and economic research organisations based on the quantity and quality of their research publications. Motu has a long history of involvement with water research and policy. In 2007, Motu broke new ground by developing a nutrient trading programme for Lake Rotorua. More recently, Motu has been involved with developing evaluation tools for water quality in Lake Taupo, and contributed to projects on the design of water regulation and the use of games to communicate about water and water quality trading. More broadly, Motu has a well-proven track record of delivering robust, non-partisan work to help inform complex and contentious economic and public policy debates.

The work programme will be led by Julia Talbot-Jones, Motu Affiliate and Lecturer at Victoria, University of Wellington. The team will be overseen by an Advisory Board with members from academia, government, private sector (industry organisations and companies), non-governmental organisations, and a range of international organisations, including the Environmental Defense Fund. The programme will be designed to build the capacity of emerging New Zealand researchers at both Motu and Victoria.

Funding

Funding of NZ\$50,000 has been granted by the Aotearoa Foundation to support Stage 1 activities in the year starting September 2019. Motu is seeking co-funding support of NZ\$80,000 to implement the first year of Stage 2 activities starting in January 2020, and will seek further funding for Stage 3.

If you are interested in funding or otherwise supporting this important work programme, please contact Julia Talbot-Jones (julia.talbotjones@vuw.ac.nz).

