

POLICY Quarterly

Volume 17 – Issue 3 – August 2021

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Subscriptions: The journal is available in PDF format on the Institute for Governance and Policy Studies (IGPS) website: <https://www.victoria.ac.nz/igps/policy-quarterly>. Readers who wish to receive it by email should register as PQ subscribers igps@vuw.ac.nz. This service is free.

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ISSN: 2324-1098 (Print)

ISSN: 2324-1101 (Online)

Volume 17, Issue 3 – August 2021

Copy Editor: Rachel Barrowman

Design & Layout: Aleck Yee

Proof Reader: Vic Lipski

Cover Photography: Aleck Yee

Production: Alltex Design

Editorial Note

The idea of just transitions has greater purchase in public debate than ever before. But it is yet to be properly embedded into the thought and practice of government, business and civil society.

This special issue offers concepts and tools to bridge the implementation gap for just transitions in Aotearoa New Zealand. The approach already has a conspicuous champion in the Just Transitions Unit within the Ministry of Business, Innovation and Employment, which supports regional transitions in Taranaki and Southland. But the strains of the low-emissions transition cut deeper and wider, exemplified by recent furores over transport infrastructure, land use and agriculture, and managed retreat.

On the one hand, such conflict is a sign of progress, a sign that the benefits and costs of climate action are becoming increasingly material. On the other hand, it is *prima facie* evidence that, in certain quarters, climate action lacks social licence. Some opposition can, of course, be reasonably dismissed as self-serving, ill-informed or devious. But some speaks to legitimate concerns about how climate action is pursued, whether by unfair distributions of costs and benefits, lack of due process, disregard for indigenous rights, inadequate participation or representation, or insufficient information. For moral and practical reasons, such concerns should not be treated lightly.

The contributors tease out different facets of just transitions. Dominic White and Catherine Leining summarise recent literature on just transitions and propose a framework for identifying those most vulnerable to disruption. Maria Bargh and Ellie Tapsell explore managed retreat and conservation policy through the lens of a tika transition. Lisa Ellis dives deeper into climate adaptation, revealing how ongoing policy indecision is itself a driver of unjust outcomes. Julie MacArthur and Cathrine Dyer analyse employment data in the energy sector to reveal its gender disparities. Amelia Sharman contributes a framework for evaluating organisational alignments to just transitions principles. Greg Severinsen applies the idea of just transitions to oceans policy, a new priority on the New Zealand government's reform agenda. Edgar Burns discusses the importance for regenerative agriculture to connect authentically with the motives of farmers. Finally, although not directly about just transitions, Norman Gemmill highlights broader distributional issues in his discussion of the policy framework for taxation.

These various contributions are held together by several unifying thoughts. First, just transitions are relevant not only to climate change, but to a range of sustainability transitions in sectors such as oceans, land use and biodiversity. The fact that these sectors both influence, and are influenced by, global warming is further reason to avoid compartmentalisation.

Second, there is no single just transition, because there is no single conception of justice. In Aotearoa, there is a special obligation to acknowledge the distinctive concerns and values that tikanga Māori brings to the low-emissions transition. There are, furthermore, different modes of justice, including distributive justice, restorative justice, participatory justice and epistemic justice. These all raise different questions and hence different answers to what a just transition should look like. As such, the use of the plural 'just transitions' is purposeful, to acknowledge the plurality of justice and the implausibility of a one-size-fits-all approach.

Third, just transitions is less a fixed agenda, more a style or approach, a way of thinking about the challenge of socio-technological transitions. It foregrounds a set of challenges and dilemmas, which relate more to the means of climate action than the ends. In particular, just transitions cultivate a mindset that places the logistics of climate action within an explicitly ethical context.

Finally, a just transition is not equivalent to a slow transition. To be sure, there is an ever-present risk that the language of just transitions will be co-opted for the purposes of delay and inaction. Not only can this misuse be guarded against, however, it does not bear on the poor prospects of genuinely unjust transitions to proceed with haste and longevity. On the contrary, there is reason to expect that the most effective and enduring change will be achieved by transitions that the majority of people regard as just and legitimate, especially in democratic societies where the ideal of consent retains its influence.

Consequently, just transitions are an important complement, or counterbalance, to the politics of climate emergency. The latter purports to cut through democratic incontinence with the force of decision, but may fail to account for hidden delays from popular resistance and depleted political capital. A just transitions approach anticipates this false promise. Only by working with, not against, popular sovereignty will sustainability transitions preserve the momentum that is needed over coming decades. In words I've used elsewhere, this should be a careful revolution, neither careless nor uncaring, or else it will face revolts of its own making.

In closing I thank the contributors for their work, produced under the challenging circumstances of the ongoing Covid-19 pandemic, and also the anonymous peer reviewers for their insights. I am also very grateful to the *Policy Quarterly's* production team: copy editor Rachel Barrowman, proofreader Vic Lipski and designer Aleck Yee; and the journal's editor, Jonathan Boston.

David Hall

Dominic White and Catherine Leining

Developing a Policy Framework with Indicators for a ‘Just Transition’ in Aotearoa New Zealand

Abstract

As Aotearoa New Zealand responds to climate change, policymakers are being challenged to ensure a ‘just transition’ for workers, households and communities. However, no domestic consensus exists about how to define, measure, monitor or manage a ‘just transition’. Maintaining public support for ambitious domestic decarbonisation will require an integrated policy framework which operationalises principles of justice and safeguards wellbeing. This article examines the concept of a ‘just transition’ for climate change and explores three tools for improving policy: inclusive, informed and iterative processes for decision making; an assessment framework for social resilience to change; and progress indicators.

Keywords climate change, justice, policy, indicators, transition

To achieve its climate change targets by 2050, Aotearoa New Zealand will need to increase the scope and ambition of policies to reduce greenhouse gas emissions and enhance removals by forestry and other sinks (referred to as climate change mitigation or low-emissions policies). It will also need policies to adapt to the unavoidable effects of climate change. While climate change

policies – and climate change itself – will have an impact on all New Zealanders to some degree, many of these impacts will not be distributed equally or equitably across the population. They will also interact with multiple drivers of wellbeing, for better or worse. This raises critical questions of social justice in the design of climate change policies.

Aotearoa currently lacks an integrated policy framework for bridging the concepts of an ambitious transition and a ‘just transition’ to an economy that meets the challenges of climate change. If designed well, such a framework could be used not only to design climate change policies that avoid or mitigate disproportionate distributional impacts across communities, but also to help remedy societal inequalities and inequities and contribute to increased wellbeing. Government commitment to a ‘just transition’ will be essential to sustaining social licence to accelerate climate action and delivering outcomes that serve current and future generations.

Turning the concept of a ‘just transition’ into a policy reality will require changes to policymaking processes and refinement of

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Table 1: A framework for relevant dimensions of social justice

Types of justice	Sample justice principles	Domains of social justice
Distributive	Equality	Cultural
	Equity	Disability
	Need	Economic
	Capability	Environmental
Procedural	Consistency	Intergenerational
	Representativeness	Racial
Retributive	Fairness	Worker
Restorative		
Interactional	Respectfulness	
	Non-discrimination	
Informational	Truthfulness	
	Adequacy	

tools for identifying, measuring, monitoring and managing the distributional impacts of those policies. To support improved policy decision making, this article examines the conceptual underpinnings of a ‘just transition’ and the New Zealand government’s policy approach. It then explores three policy tools to help achieve just outcomes from climate change policies: inclusive, informed and iterative processes for decision making; an assessment framework for social resilience to change; and progress indicators. A case study illustrates how they might be applied. While we focus particularly on low-emission policies, these tools could apply broadly across climate change policies.

Conceptualising a ‘just transition’ for climate change

This section provides historical context for the concept of a ‘just transition’ for climate change. It then considers relevant dimensions of justice, reviews insights from academic literature, and summarises the New Zealand government’s policy response to date.

Historical context

The term ‘just transition’ has been applied in multiple environmental contexts and for social transitions of variable scale and complexity. Its use originated in the 1990s with North American unions urging support for workers who had lost their jobs due to policies to protect the environment, particularly in sectors with large environmental footprints such as fossil fuel production (Just Transition Centre, 2017; Atteridge and Strambo, 2020). From the standpoint of unions, this

concept has evolved towards concentrated and inclusive efforts to plan for, invest in and transition into environmentally sustainable jobs, sectors and economies (ILO, 2015; ITUC, 2020).

The concept of a ‘just transition’ has broadened over time to encompass further elements of social justice. In current use, it calls for consideration of how climate change and associated policies impact on human rights and wellbeing across different regions, sectors, socio-economic groups and generations, as well as on the environment and biodiversity. It also calls for greater participation of affected communities in decision making and for remedying past injustice alongside avoiding further exacerbation of injustice (Schlosberg and Collins, 2014; Just Transition Research Collaborative, 2018; Atteridge and Strambo, 2020; CSIS and CIF, 2020).

The goal of a ‘just transition’ has entered government policy internationally. The 2015 Paris Agreement calls for parties to take into account ‘the imperatives of a just transition of the workforce’ and to respect, promote and consider a range of human and development rights, as well as gender equality, empowerment of women and intergenerational equity (United Nations, 2015). At the 2018 international climate change conference, leaders from 56 countries signed the Solidarity and Just Transition Silesia Declaration, calling for a just transition of the workforce through participatory and representative processes (UNFCCC, 2018). ‘Just transition’ principles and processes are being integrated into government policy in many countries.

Dimensions of justice

The concept of social justice is highly complex and widely debated in the context of both individual virtues and social systems. Multiple dimensions of social justice are potentially relevant to a ‘just transition’ for climate change, and a thorough assessment is beyond our scope. To support our analysis, we have drawn from expert reviews to offer a simple (and non-exclusive) framework, shown in Table 1.

Distributive justice focuses on outcomes from allocation (e.g., of resources, responsibilities, costs, benefits, burdens and opportunities) and procedural justice on the methods and processes for decision making. Retributive justice applies to punishment of offenders for transgressions, whereas restorative justice involves addressing the needs of victims and communities as well as offenders in responding to injustice. Interactional justice refers to how individuals treat each other. Informational justice refers to the adequacy of the informational basis for decisions (Cook and Hegtvedt, 1983; Jost and Kay, 2010; Hegtvedt, 2018).

In the context of distributive justice, Hegtvedt (2018) compares the rule for equality (receiving an equal share of outcomes) with that for equity (alignment of outcomes with the inputs of recipients) and needs (alignment of outcomes with the needs of recipients). The ‘capability approach’ to distributive justice emphasises the assessment of levels of multidimensional wellbeing and the freedom to achieve wellbeing (Nussbaum and Sen, 1993; Robeyns, 2017). Key principles for procedural justice include consistency and representativeness (Hegtvedt, 2018). Retributive and restorative justice can be guided by the principle of fairness regarding whether the remedies for an injustice are commensurate with the harm.

‘Just transition’ considerations extend across multiple social justice domains. Each domain brings its own painful legacies of injustice, aspirations for the future and priorities to decision making on climate change. The challenges of climate change cannot be solved in isolation from any of those domains. Their interdependence creates both complexities and opportunities for synergistic solutions. Supporting a ‘just transition’ for climate

change is only one piece of the broader puzzle of improving social justice outcomes across multiple drivers of change.

Academic literature review

We reviewed academic literature focused on principles and processes for a 'just transition' for climate change. Newell and Mulvaney (2013), Eisenberg (2019) and Heffron and McCauley (2018) look at the interplay between a 'just transition', achieving a low-emissions future, and the relationship with law, equity and justice. According to Newell and Mulvaney, one of the significant challenges facing a global 'just transition' is addressing 'energy poverty'. This involves achieving emissions reduction targets as well as ensuring that the impacts from the transition are not disproportionately felt by vulnerable groups. Eisenberg argues that the term 'just transition' has two primary definitions in literature: (1) a transition to a low-emissions future which is fair to the most vulnerable populations; and (2) the protection of workers and communities that depend on high-emission industries against disproportionately facing the costs of a low-emissions future. She argues that the latter definition should be used by policymakers. Heffron and McCauley conclude: (1) justice takes three forms (distributional justice, procedural justice and restorative justice); (2) a 'just transition' should be universal in recognition; and (3) clear definitions of space and time are vital for a successful 'just transition'. Weller (2019) explores the importance of framing for 'just transition' strategies, using the handling of coal mine closures in the Latrobe Valley, Australia as a case study: it shows the importance of collaboration and trust with communities as factors for a successful transition.

Just Transition Research Collaborative (2018) explores the history of a 'just transition' and provides a meta-analysis of approaches to a 'just transition' around the world. The authors map the approaches using four potential outcomes from a 'just transition': status quo, managerial reform, structural reform and transformative approaches. They focus on five main questions: who is negatively affected by the policy; how will energy be effectively controlled and distributed; what kind of society is envisaged for the future; whether

'just transitions' can be adapted for developing countries; and whether the approaches and initiatives for 'just transitions' are actually 'just'.

Hall (2019) compiles essays presenting 'just transition' perspectives in Aotearoa. For example, Sharman (2019) explains how different regions and sectors will face distinctive challenges from the low-emissions transition and notes the influence of conflicting values and world views. Bargh (2019) calls for a 'tika transition' that upholds Māori tikanga

policy frameworks and techniques to minimise disproportionate impacts.

Fell, Pye and Hamilton (2020) view the identification of distributional impacts of low-emissions policies and longer-term transitions as risk management. The risk comes from potentially negative policy impacts, and risk management allows policymakers to reduce the probability of negative outcomes and identify and compensate for impacts that cannot be avoided. The authors point to energy justice frameworks, where policymakers

The 2015 Paris Agreement calls for parties to take into account 'the imperatives of a just transition of the workforce' and to respect, promote and consider a range of human and development rights, as well as gender equality, empowerment of women and intergenerational equity ...

(customary practices and procedures guided by deeply held values), the Crown's responsibilities under te Tiriti o Waitangi/ the Treaty of Waitangi, and the United Nations Declaration on the Rights of Indigenous Peoples (2007). She points to failures in the government's approach to climate change policy in each of these regards. Lawrence (2019) identifies gaps in strategic planning for adaptation and calls for improved processes and funding, with greater integration between mitigation and adaptation policies. Boston and Hall (2019) conclude with a list of 13 principles for a 'just transition' in Aotearoa.

We also reviewed academic literature focused on the social impacts of low-emissions policies. Fell, Pye and Hamilton (2020) and Markkanen and Anger-Kraav (2019) examine high-level low-emissions transition and climate change policy literature. Their work provides evidence that policies can have both co-benefits and adverse side effects. They also provide

consider policies' distributional impacts on population subgroups and review subgroup representation in the decision-making process.

Markkanen and Anger-Kraav (2019) discuss the complex distributional and inequality impacts of low-emissions policies. Their work builds on the literature which shows that the outcomes of climate change policies depend on contextual factors, policy design and implementation, and mitigating action taken to address negative impacts. Many of the policy outcomes they identify emerge through dynamic relationships.

Bhatta et al. (2008), Cai, Mu and Chen (2014) and Miller, Vine and Amin (2017) identify social impacts of low-emissions policies. Bhatta et al. examine forest management in Nepal and find evidence that disproportionate stakeholder representation in decision making, including civic participation, is a contributing cause of disproportionate

impacts from policy. Miller, Vine and Amin look at the specific disproportionate social impacts on the elderly population related to household energy efficiency policies in Australia. They provide evidence of the oversights that can occur from policies which do not appropriately consider social impacts. Cai, Mu and Chen look at the employment impacts of a transition to a low-emissions energy sector in China. They show that distributional impacts models are a relatively effective tool to determine social impacts of low-emissions policies.

and climate change strategies, and this has been extended by the Labour government over 2020–23 (New Zealand Government, 2021a).

While overarching climate change policy development rests with the Ministry for the Environment, the Ministry of Business, Innovation and Employment created a Just Transitions Unit in 2018 to lead partnerships, visioning and advice. Its work programme was framed using four distinct concepts: understanding the different pathways to transform the economy; partnering with

development, infrastructure and transport, health and wellbeing, the arts, environmental sciences, regulatory authorities, and metrics and evaluation. A 2021 progress report showed that 85 actions are complete or underway, 38 are partly underway and 43 actions are remaining (Ngā Kaiwhakatere o Taranaki, 2021). The government also aims to support a locally led 'just transition' in Southland, due to the impending closure of the Tiwai Point aluminium smelter (New Zealand Labour Party, 2020). Long-term monitoring and evaluation of these early efforts will be critical to improving localised transition planning in other areas.

Independent Crown entities have also recommended policies for a 'just transition'. The Productivity Commission (2018) included analysis of contributors to an 'inclusive transition' in its recommendations for a low-emissions economy. It emphasised that firms and households need predictability about the direction of change for a transition to be successful and will require support to manage shocks to labour markets, as well as increased energy, transport and food costs for low-income households. He Pou a Rangi Climate Change Commission highlighted 'just transition' considerations in its inaugural climate change mitigation advice to the government in May 2021. It called for a well-signalled, fair, inclusive and equitable transition to a resilient, low-emissions economy. It recommended an equitable transitions strategy, enabling proactive transition planning, improved education to prepare the future workforce, support for workers transitioning from high-emission industries, and distributional impact assessments for all climate policy and strategy. It emphasised a partnership approach between the Crown and iwi/Māori to give effect to the principles of te Tiriti o Waitangi/the Treaty of Waitangi and enable a strategy for a Māori-led approach to an equitable transition for iwi/Māori and the Māori economy. It also called for more effective mechanisms to incorporate public views into policy development (Climate Change Commission, 2021).

The New Zealand government's 'just transition' policy is at an early stage of development. Our literature review suggests considerable scope for its expansion and improvement. While

The Productivity Commission ... emphasised that firms and households need predictability about the direction of change for a transition to be successful and will require support to manage shocks to labour markets, as well as increased energy, transport and food costs for low-income households.

Beyond sources noted above, we did not identify substantial academic literature providing overarching policy frameworks aimed at limiting disproportional or unjust impacts from government climate change policies.

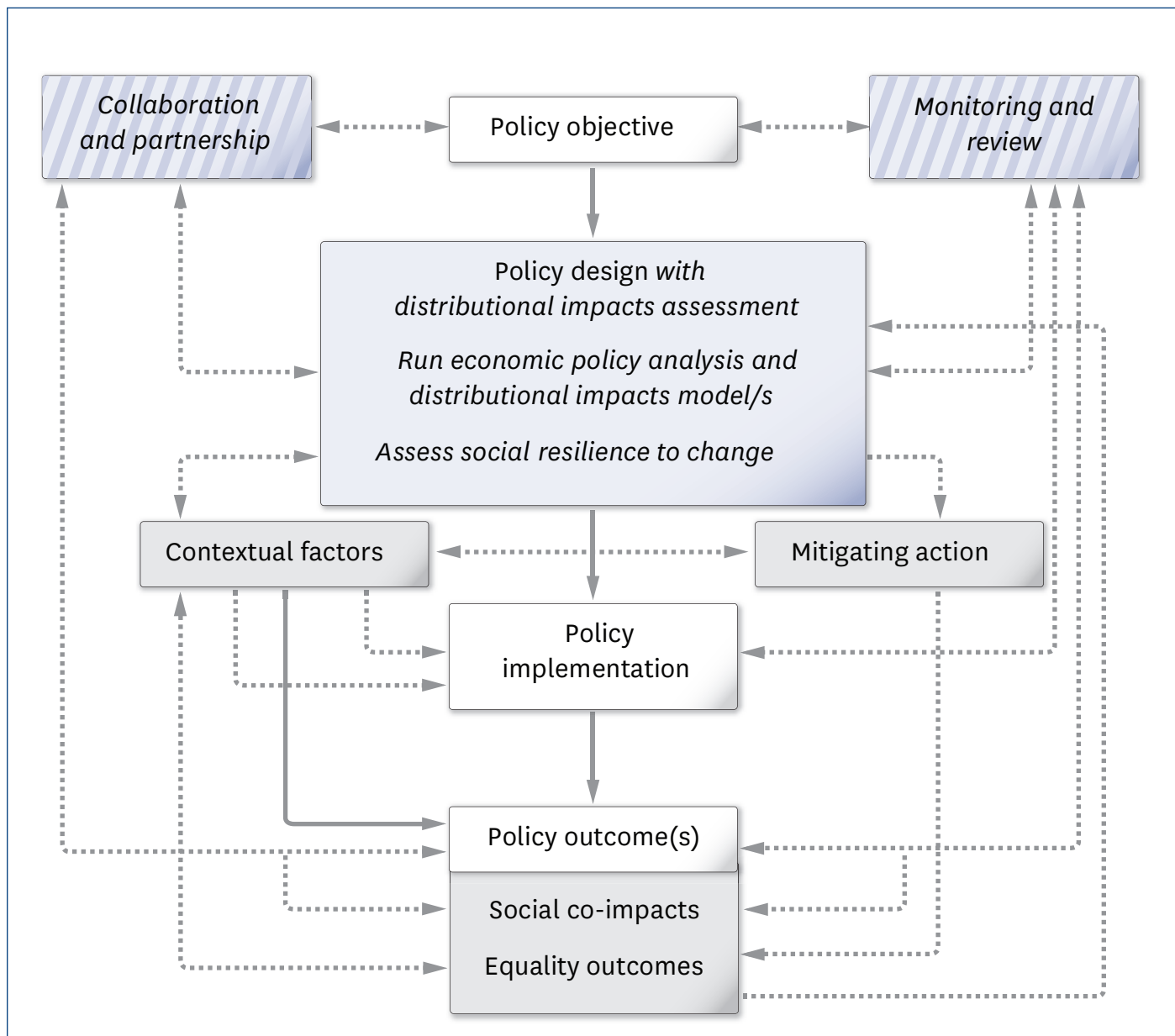
New Zealand government's policy response

As a party to the 2015 Paris Agreement, the New Zealand government has begun to incorporate 'just transition' concepts into domestic legislation and policy. Under the 2019 amendments to the Climate Change Response Act 2002, the government's five-yearly emissions reduction plans must include 'a strategy to mitigate the impacts that reducing emissions and increasing removals will have on employees and employers, regions, iwi and Māori, and wider communities, including the funding for any mitigation action'. As discussed in Shaw (2017) and Woods (2018), the Labour-led coalition government over 2017–20 integrated high-level 'just transition' objectives into its economic

iwi/Māori, local government, business, communities and the workforce to identify, create and support the transition; understanding how impacts of the transition are distributed across the economy and ensuring they are managed in an equitable and inclusive way; and building the social licence to be ambitious in the approach to transforming the economy (Woods, 2018).

The ministry initially focused on supporting a 'just transition' in the Taranaki region, whose economy is heavily dependent on fossil fuel production and will be particularly affected by the government's ban on new oil and gas exploration, as well as future changes to primary production (Ministry of Business, Innovation and Employment, 2020). Collaborative community-based transition planning was used to create a regional roadmap for change. Venture Taranaki (2019) identified 12 transition pathways, which include energy, food and fibre, tourism, the Māori economy, people and talent, innovation and research

Figure 1: A proposed decision-making process for low-emissions transition policy building (from the analysis of Markkanen and Anger-Kraav, 2019)



declaring the need for a ‘just transition’, the government has not proposed which dimensions of justice will apply, how it will reflect the values and insights from te ao Māori (the Māori world view) and mātauranga Māori (Māori knowledge and wisdom), and how it will achieve just outcomes across policy domains. Its approach to date has focused more on defining processes for analysis and engagement than priority outcomes. It has not specified targets, indicators or time frames for evaluating progress. Beyond the Taranaki region, the government has not formalised broad and inclusive social conversations about how to define and achieve a ‘just transition’ in Aotearoa.

Improved policy decision-making processes for Aotearoa

In Aotearoa, improved decision-making processes will be required to transform high-level principles for a ‘just transition’ into concrete policy design. Such processes will need to give effect to the principles of te Tiriti o Waitangi/the Treaty of Waitangi; be evidence-based; enable greater representation and co-design by affected groups and communities; coordinate efforts across multiple policy and social domains; and enable continual monitoring, review and improvement.

We propose expanding on the policy process developed by Markkanen and Anger-Kraav (2019) (see Figure 1). As used

by the originating authors, solid lines represent widely recognised relationships in policy analysis and dashed lines represent interactions less commonly understood by policymakers but influential in improving social outcomes. ‘Mitigating action’ includes measures introduced in tandem with climate change policies to enhance social outcomes of the policies.¹ The authors explain that positive policy outcomes emerge when the policymaking process is inclusive and informed by contextual factors, and when existing knowledge from previous studies is appropriately applied.

In Figure 1, we elaborate on their policy process in the following ways:

Table 2: Potential identifiers and characteristics for reduced resilience to low-emissions policies

Identifier	Characteristics for reduced resilience to low-emissions policies
Occupation	<ul style="list-style-type: none"> Workers producing goods or services with an emissions-intensive footprint for production and/or use Workers with emissions-intensive mobility needs Workers with non-transferable skill sets Workers with limited access to alternative employment
Economic status	<ul style="list-style-type: none"> People with relatively low income and wealth
Social and cultural identity	<ul style="list-style-type: none"> People for whom adjusting to new policy could affect their social and cultural identity
Civic participation	<ul style="list-style-type: none"> People who are not well represented in the decision-making bodies and processes in Aotearoa
Geographic location	<ul style="list-style-type: none"> People whose location, or ability to change location, affects their change exposure, sensitivity or capacity
Education	<ul style="list-style-type: none"> People with specialised qualifications or a low level of education People who fail to understand or anticipate policy-related changes
Health-related factors and disabilities	<ul style="list-style-type: none"> People with disabilities People with underlying medical conditions or who are primary caregivers for relatives with medical conditions People with compromised cognitive function and other factors that influence behaviour
Infrastructure access	<ul style="list-style-type: none"> People with limited access to enabling infrastructure
Age	<ul style="list-style-type: none"> People who are at an early or late stage of life Future generations

- *Adding an explicit process for ‘collaboration and partnership’.* This is to facilitate more effective engagement, data collection and policy co-design involving affected stakeholder groups and communities, as well as partnership approaches between the Crown and iwi/Māori giving effect to te Tiriti o Waitangi/the Treaty of Waitangi. This process can be supported by localised transition planning, creating a broader context for individual policy decisions.
- *Adding an explicit process for ‘monitoring and review’.* This is to ensure that both climate change policies and mitigating actions undergo regular assessment and continual improvement to ensure just outcomes over time. Review and monitoring processes will need to cover the integrated impacts of multiple climate change and other policies across diverse communities, as well as mitigation and adaptation. Siloed assessment of individual policies can obscure compounding effects. Effective indicators covering integrated impacts

will be essential to measuring and monitoring progress.

- *Integrating ‘distributional impacts assessment’ into policy design.* This should be supported by economic policy analysis modelling (economy-wide, sector-specific or both), as well as distributional impacts modelling, which applies the results from economic policy analysis modelling, to help identify how subpopulations will be affected by the policy in the future. This approach has been used in the modelling applied by the Climate Change Commission in developing its advice to the government (Climate Change Commission, 2021). As elaborated in the next section, this step should also include assessment of social resilience to change.

An assessment framework for social resilience to change

We recommend using an assessment framework for social resilience to change to help identify those who may be

disproportionately affected by the policy and/or need additional support to adjust. As a starting point, we propose a high-level framework informed by USGRP (2016), which defines groups with reduced resilience to the impacts of climate change. We consider that this approach is adaptable to assessing resilience to impacts from climate change policies (both mitigation and adaptation). Identifiers for resilience to policy change can reflect three different functions: a group’s sensitivity to risk (e.g., from policy impacts), its exposure to those risks, and its adaptive capacity (ibid.). In our context, ‘exposure’ refers to contact between a group and one or more policy-related stressors. ‘Sensitivity’ refers to the degree to which the group is affected, either adversely or beneficially. ‘Adaptive capacity’ refers to the group’s ability to adjust to policy change and take advantage of associated opportunities.

Table 2 presents a list of potential identifiers for resilience to low-emissions policies and some sample characteristics of groups whose resilience may be negatively affected by policy change. It is important to note that the resilience of some groups may also be positively affected by low-emissions policy. This framework is not exhaustive, and policy-specific assessment would be advised in its practical application. Further expansion could enable assessment of integrated resilience across climate change impacts and mitigation and adaptation policies, as well as incorporate strengths-based characteristics for those with high resilience to change.

Progress indicators for a ‘just transition’

The effectiveness of monitoring and review will depend on the quality of indicators used for setting goals and measuring progress. We recommend integrating two existing frameworks applied to measure wellbeing in Aotearoa: the Living Standards Framework and He Ara Waiora. Together, they provide clear and measurable domains for assessing wellbeing. To be effective, any analysis using these frameworks should be supported by data and statistical analysis.

The Living Standards Framework includes a broad range of indicators for wellbeing outcomes focused on people, the country and the future. Its dashboard

approach to outcome measurement can be used to measure broad wellbeing outcomes for the New Zealand population (Treasury, 2018). The dashboard indicators are split into 12 domains of wellbeing: civic engagement and governance; cultural identity; environment; health; housing; income and consumption; jobs and earnings; knowledge and skills; safety; social connections; subjective wellbeing; and time use. These domains and their indicators could be used to identify and monitor the impacts of climate change policies on wellbeing.

A weakness of the Living Standards Framework is the absence of perspectives informed by te ao Māori. He Ara Waiora is an alternative wellbeing framework developed by Māori with the aim of providing an indigenous perspective on wellbeing for the benefit of all New Zealanders (Treasury, 2020; O’Connell et al., 2018; McMeeking, Kururangi and Kahi, 2019). He Ara Waiora is broadly built up of ends (the building blocks of Māori wellbeing) and means (principles to accomplish those ends). The ends include wairua (spirit), te taiao (the natural world) and te ira tangata (the human domain). The means include kotahitanga (working collaboratively and inclusively), manaakitanga (having a focus on wellbeing and mana and an ethic of care), tikanga (ensuring that the right decisions and decision makers are involved in the processes), whanaungatanga (strong networks and relationships) and tiakitanga (guardianship and stewardship over processes and systems). A challenge for He Ara Waiora is to develop goals and measures for systematic transformation across these ends and means in Aotearoa.

Importantly, these established frameworks do not present integrated indicators for low-emissions and climate-resilient wellbeing; nor do they define recommended thresholds for ensuring that some minimum – and equitable – standards for wellbeing are being achieved and (hopefully) improved across the population in line with climate change targets. This would be a valuable area for further work. Furthermore, individual communities may have developed their own wellbeing frameworks. For localised transition planning, policymakers should engage

with stakeholder groups, communities and iwi/Māori about the most appropriate wellbeing frameworks and indicators to use in their specific context.

Policy case study

The New Zealand government must decide on ‘recycling’ (redistributing) auction revenue from the New Zealand emissions trading scheme (ETS). Prior to auctioning, ETS revenue came from limited use of the fixed price option,² reaching \$637 million

amount of ETS revenue could increase significantly in the future.

When returned to the general budget, emissions pricing revenue can displace distortionary taxes, reduce public debt or increase general spending. Experience in other jurisdictions suggests there is greater public support for emissions pricing when the revenue is earmarked towards climate action or compensation for disadvantaged groups. Major emissions trading schemes have taken a portfolio approach,

Designing policies to move towards a low-emissions and climate-resilient economy creates opportunities to avoid perpetrating future social injustice, help remedy past social injustice, and improve the wellbeing of New Zealanders.

by March 2021 (Environmental Protection Authority, 2021). Auctioning emission units, which started in 2021, could produce Crown revenue conservatively estimated at \$3 billion over 2021–25 (Shaw, 2021a).³

Historically, New Zealand ETS revenue has accrued to the general budget. In a first step towards earmarking, in 2017 the Labour Party and New Zealand First agreed that future ETS revenue from biogenic agricultural emissions would be returned to the sector to support agricultural innovation, mitigation and forestry planting (New Zealand Labour Party and New Zealand First, 2017). In 2020 officials identified four options for ETS revenue recycling: emissions mitigation, climate change adaptation, compensation for disproportionately negative impacts of climate change policies, and purchasing offshore mitigation to bridge gaps in targets and emissions budgets (Shaw, 2021b).⁴ In May 2021 the government announced that starting from Budget 2022, ETS revenue would be recycled to emissions reduction programmes (New Zealand Government, 2021b). Both the distributional impacts of emissions pricing and the

redistributing auction revenue through renewable energy and energy efficiency, transportation, research and development, natural resource conservation, waste diversion, adaptation, and compensation to households, communities and industries (Santikarn et al., 2019).

Distributional impacts of emissions pricing depend heavily on how the revenue is used (Beck et al., 2015; Kaufman and Krause, 2016; Goulder et al., 2018; Haug, Eden and de Oca, 2018; Pomerleau and Asen, 2019). For households, distributional impacts from revenue recycling vary across direct lump sum transfers, subsidies, and tax credits or swaps. For firms, such impacts vary across similar measures, as well as free allocation and research and development support. The balance between free allocation and auctioning can have significant distributional implications.⁵

Perceptions of justice impacts from New Zealand ETS revenue recycling will depend in part on which justice dimensions are applied. Lump sum transfers to households could satisfy the principle of equality. Different revenue recycling

options have variable equity implications across households by income. Revenue could be directed to support those whose fundamental human needs are threatened by climate change and climate change policies, or more broadly to increase wellbeing. Procedural justice would involve greater participation and representation in decision making by stakeholder groups and communities and a partnership approach between the Crown and iwi/Māori. A 'polluter pays' approach to retributive justice might direct the revenue to those most harmed by climate change and climate change policies. A restorative approach might help all sectors, as well as workers, households and communities, to transition, or support iwi/Māori and others historically disadvantaged under the economic system. Interactional justice would produce non-discriminatory outcomes. Informational justice would ensure that decisions were adequately informed by credible and accessible data and modelling. Intergenerational justice could be served by accelerating mitigation to prevent dangerous climate change impacts.

Applying the decision-making framework in this article, policy objectives for New Zealand ETS revenue recycling would align with overarching principles and strategies for a 'just transition'. Decision making would involve inclusive and representative processes, enabling collaboration and partnership. Decisions would be informed by economic policy analysis modelling and distributional impacts modelling for revenue recycling

options, alongside other policies. It would include assessment of social resilience to emissions pricing, as well as contextual factors influencing outcomes. Mitigating actions supporting a 'just transition' would be designed in the broader context of government economic development, taxation and social assistance programmes. Monitoring and review of policy outcomes, social co-impacts and equality outcomes would apply wellbeing indicators drawn from the Living Standards Framework and He Ara Waiora. A systematic, inclusive, evidence-based and iterative decision-making process enabling broad public support may be more likely to produce 'just transition' outcomes enduring across election cycles.

Conclusion

The global call for a 'just transition' as economies prepare to mitigate and adapt to climate change has carried from the grassroots to the highest level of international climate change policy. In Aotearoa New Zealand, judgements on principles, processes, practices and indicators for a 'just transition' cannot be made successfully by government in isolation; they need to be formulated through social dialogue and validated through inclusive decision making. The development of an equitable transitions strategy for Aotearoa, and a strategy for a Māori-led approach to an equitable transition for iwi/Māori and the Māori economy, as recommended by the Climate Change Commission, could open the door for this to happen.

Designing policies to move towards a low-emissions and climate-resilient economy creates opportunities to avoid perpetrating future social injustice, help remedy past social injustice, and improve the wellbeing of New Zealanders. The decision-making framework elaborated in this article provides for collaboration with stakeholder groups and communities as well as partnership with iwi/Māori at every stage. It integrates distributional impacts assessment of policies using advanced modelling and a framework for assessment of social resilience to change. For monitoring and review, it incorporates progress indicators for low-emissions and climate-resilient wellbeing which build on existing frameworks specific to Aotearoa. An improved decision-making framework could empower central and local government, iwi/Māori, workers, stakeholder groups and communities to develop widely shared and well-informed principles and objectives for a 'just transition' in Aotearoa and co-design effective policies for making it a reality.

1. The use of the term 'mitigating' for policy co-impacts in the figure should not be confused with the mitigation of climate change through low-emissions policies.
2. The fixed price option for emissions produced through 2020 enabled New Zealand ETS participants to pay a fixed price instead of surrendering units to meet their obligations.
3. Over 2021–25, auctioning 89.6 million units (Ministry for the Environment, 2021) with an estimated average price of \$35 would generate \$3.1 billion in revenue.
4. Similar options were recommended by the Climate Change Commission (Climate Change Commission, 2021).
5. Industrial free allocation of 43 million units over 2021–25 (Ministry for the Environment, 2021) would mean forgone auction revenue of \$1.5 billion at an estimated \$35 per unit. In 2018, the four largest recipients accounted for 70% of freely allocated units (Environmental Protection Authority, 2019).

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For a Tika Transition strengthen rangatiratanga

Abstract

There is growing respect for and recognition of te ao Māori within Aotearoa's environmental policy and management space. However, to ensure that Aotearoa can build a better future equitably a 'tika transition' must be realised, whereby iwi, hapū and Māori (the rangatiratanga sphere) and the Crown (kawanatanga sphere) exist within distinct and equal political entities, with the rangatiratanga sphere leading and governing tikanga and mātauranga Māori policy and legislation. We examine two prominent environmental issues – sea level rise and taonga species protection – facing iwi, hapū, Māori and the Crown, exploring the barriers, solutions and positive steps towards a 'tika transition' in each area. We recommend that policy and legislation include stronger instruments for shared decision making and specific funding for iwi, hapū and mana whenua to strengthen the rangatiratanga sphere. It is acknowledged that the barriers and solutions are interconnected and will rely on good relationship building and trust, power sharing and knowledge sharing, and policy and legislation that allows for and supports the rangatiratanga sphere as its own distinct space for tikanga-based governance and jurisdiction.

Keywords rangatiratanga, te tiriti o Waitangi, environmental policy, co-governance

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A tika transition to a low-emissions economy is one that embraces tikanga Māori as a source of solutions, upholds the principles of te Tiriti o Waitangi and is consistent with the United Nations Declaration on the Rights of Indigenous Peoples (Bargh, 2019). Tikanga Māori is a

set of beliefs associated with practices and procedures to be followed in conducting the affairs of a group or an individual. These procedures are established by precedents through time, are held to be ritually correct, are validated by usually more than one generation and are always subject to what a group or an individual is able to do. (Mead, 2003, p.12)

At the core of tikanga Māori is a world view which emphasises the importance of relationships: between people and the natural world and among people. A 'tika transition' is not simply a transition that is compliant with te Tiriti and the UN declaration, but one which also demonstrates respect for tikanga Māori and these relationships. A 'tika' transition has the potential to create transformational change in the environmental, social, economic and scientific realms of our

society. As Ruru et al. argue, ‘recognition of and respect for tangata whenua “ways of knowing and doing” within the New Zealand public are increasing’ (Ruru et al., 2017, p.70), and this acknowledgement creates the conditions to support decision makers at national and local levels to build better ways forward. We suggest that the concept of a tika transition should be used as a guide for all government practices and policies at both national and local levels.

In this article we highlight some of the practices and policies that are standing in the way of a tika transition and propose policy and legislative changes that better align with a tika transition. In particular we examine two areas where difficult decisions are already upon hapū, iwi, Māori and the Crown, and explore how their resolution might be approached in a tika manner, asking the questions: how can a tika transition be realised? Which governance and policy arrangements need to change to make space for a tika transition? We suggest both broad and specific legislative and policy changes that will advance a tika transition and also highlight positive steps already being taken.

We note at the outset that a core idea which underpins our argument for a tika transition, and which we return to throughout this article, is the idea, in part envisaged in te Tiriti o Waitangi itself, that the ‘rangatiratanga sphere’, encompassing whānau, hapū and iwi Māori, co-exists alongside, but distinct from, the kawanatanga sphere of the Crown. Between the two spheres sits a ‘joint sphere’, where engagement of the two occurs. Many of the policies and practices described in this article occur within the joint sphere. We argue, however, that further focus needs to be applied to strengthening the rangatiratanga sphere as a distinct political sphere of authority. For a mutual recognition of distinct political entities and spheres to occur, constitutional transformation is required (Jones, 2016; Matike Mai Aotearoa, 2016; Charters et al., 2019). However, in the interim the steps we identify, we suggest, assist on the path towards more transformational change.

Sea level rise and managed retreat

One of the impacts of climate change that many communities are already observing

For Māori authorities, many of their responsibilities and priorities in coastal areas are informed by the perspective of mana whenua with inter-generational kaitiaki obligations to the natural environment in those places and responsibilities to their hapū and iwi and their cultural, political and economic structures and institutions.

is sea level rise (Statistics New Zealand, 2019). The forms that sea level rise takes vary according to a number of factors, including the shape of the coastline and tidal currents (NIWA, n.d.). Sea level rise is often accompanied by coastal surges, an increase in erosion of coastal land and increasing salination of aquifers in coastal-adjacent areas (Parliamentary Commissioner for the Environment, 2015).

With sea level rise come challenging conversations about how built infrastructure, (both publicly and privately

owned) and natural and social infrastructure might be protected or altered. Several scholarly reports have noted the lack of clear direction in existing legislation to guide local government on how to prepare for sea level rise and increasing coastal hazards (Ministry for the Environment Review Panel, 2020; Parliamentary Commissioner for the Environment, 2015). Hanna, White and Glavovic have noted three core management approaches to responding to sea level rise and hazards – ‘protect, accommodate, retreat’ – which emerged from the first assessment report of the Intergovernmental Panel on Climate Change (Hanna, White and Glavovic, 2017, p.3). The idea of managed retreat follows attempts to protect infrastructure (such as through seawalls, sandbags or vegetative buffers) or accommodate impacts (such as through lifting buildings or strengthening, warnings and evacuations and setting back further from the coast). ‘Managed retreat’ is ‘an adaptive approach to risk reduction, where people, activities and assets are strategically relocated away from hazardous locations’ (ibid., pp.3-4). It can refer to relocation away from many types of hazardous areas, but is commonly used in the context of the hazards emerging in the coastal area from sea level rise (Parliamentary Commissioner for the Environment, 2015).

The Randerson report released in June 2020 made major recommendations that the Resource Management Act 1991 be abandoned and three new Acts established, one being a Managed Retreat and Climate Change Adaptation Act. It noted that current provisions for managed retreat and climate change adaptation were reactive, unclear, and linked with a lack of capacity within local government. The report recommended a more proactive approach, with guidance and clarity largely coming from central government in the form of new legislation and funding (Ministry for the Environment Review Panel, 2020, p.181).

Central and local government and Māori authorities all have different levels of responsibility and priorities in coastal areas. For Māori authorities, many of their responsibilities and priorities in coastal areas are informed by the perspective of mana whenua with intergenerational

kaitiaki obligations to the natural environment in those places and responsibilities to their hapū and iwi and their cultural, political and economic structures and institutions. The tikanga notion of ki uta ki tai, 'mountains to the sea', presents a reminder that for Māori authorities, coastal management is not separated from the rest of the catchment (Te Rūnanga o Kaikōura, 2007, p.4). Local government is guided by the Local Government Act 2002, the Resource Management Act and the New Zealand Coastal Policy Statement (Department of Conservation, 2010) when considering its duties in regard to sea level rise, which all tend to compartmentalise the coastal area as distinct from other natural resources in the geographical area. Alongside the increasing acknowledgement of te ao Māori, some councils do now use Māori words and concepts such as 'ki uta ki tai' to describe some integrated catchment plans (for example, in the Greater Wellington Regional Council whaitua programme) (Greater Wellington Regional Council, 2020).

Sea level rise will continue to put considerable pressure on coastal councils, iwi, hapū and communities to work together effectively to manage new and emerging risks. Within this context, which practices and policies are currently barriers to a tika transition, what changes are needed, and where can positive steps be seen emerging?

Towards a tika transition: barriers and solutions

The protection of Māori rights in decision-making instruments for coastal areas is weak. Largely this results from weak clauses in the Resource Management Act, the Marine and Coastal Area (Takutai Moana) Act 2011 and the New Zealand Coastal Policy Statement, which allow for Māori rights to be 'balanced out' (Ruru in Waitangi Tribunal, 2019, p.25). For example, all use 'take into account' when referring to the principles of the Treaty of Waitangi. The New Zealand Coastal Policy Statement uses other passive phrases, such as 'consider providing practical assistance to iwi or hapū' (policy 2(e)(ii)) and 'as far as practicable in accordance with tikanga Māori' (2(b)) (Department

Relationships between local government and mana whenua and Māori are uneven across the country, and often Māori continue to be treated as one stakeholder of many in the community ...

of Conservation, 2010, pp.12,11). This language lacks authority or urgency and provides space for limited power sharing. Furthermore, the Foreshore and Seabed Act 2004 (and the subsequent Marine and Coastal Area (Takutai Moana) Act 2011) already limited the scope of Māori rights possible in relation to the marine and coastal area through the vesting of the space in the Crown and extinguishing of Māori customary rights. New legislation that focuses on managing both natural resources and climate adaptation processes must include stronger and action-based instruments for shared or Māori-led decision making.

The Waitangi Tribunal has provided examples of stronger language, such as 'must give effect to the principles of the Treaty of Waitangi' and 'shall act in a manner that is consistent with the principles of the Treaty', numerous times (see WAI 1200,167, 796, 785, 863, 304, 145, 2358, 262, 1130). However, the Tribunal acknowledges that strengthening language alone will not fix all issues. For example, the Department of Conservation (DOC) is the leading agency guiding the New Zealand Coastal Policy Statement and has far stronger language in its legislation (to give effect to te Tiriti) and yet this hasn't

resulted in strong language or Treaty compliance in the coastal policy. As the Tribunal indicates, more is required to ensure compliance, and it has in several reports made recommendations about what must be done, such as requiring local authorities to explore options for delegation of powers to Māori (Waitangi Tribunal, 2011, p.281). Mana Whakahono a Rohe arrangements were intended to go some way to achieving this, but it remains to be seen if recognition of their role is carried over into new legislation replacing the Resource Management Act.

In the New Zealand Coastal Policy Statement Māori rights and interests tend to be compartmentalised as 'cultural' and narrowed to pertain to very specific locations. Other than in the specific te Tiriti objective and policy (objective 3 and policy 2), tangata whenua are mentioned in only six other of its policies; however, in each of these the focus is on specific rights or interests, such as relating to 'wāhi tapu' or 'sites of significance' or 'cultural value', rather than decision making or specific values. Policies of note where tangata whenua are not included are policy 7, 'Strategic planning', policy 11, 'Indigenous biological diversity (biodiversity)', and policy 28, 'Monitoring and reviewing the effectiveness of the NZCPS'. The effect of this limited inclusion is that it provides councils that may be already lacking in capacity, capability or will to work effectively in partnership with iwi and hapū the licence to sideline Māori from strategic decision making or planning. Instead, councils are simply 'recognising' or 'taking into account' iwi, hapū or mana whenua rights in relation to specific sites of significance. This fails to acknowledge many elements that are required for a just or tika transition, such as that Māori have te Tiriti-based rights to rangatiratanga and to be part of strategic-level planning across all natural resources, not just in regard to what are considered 'cultural matters'. Furthermore, if the relationships between mana whenua and local governments are not particularly close or well integrated, the combination of weak language and compartmentalising of Māori rights within policy is very likely to result in a low power-sharing arrangement when assessed on a spectrum of power sharing (Wevers, 2011).

The recognition and the enabling of Māori rangatiratanga rights to participate in power sharing and decision making must be clearly indicated in any new legislation relating to managed retreat, and in any amendments to the New Zealand Coastal Policy Statement.

This brings us to our third barrier inhibiting tika processes in regard to sea level rise, but also resource management more generally: relationships between council and iwi, hapū or mana whenua. Relationships between local government and mana whenua and Māori are uneven across the country, and often Māori continue to be treated as one stakeholder of many in the community (Bargh, 2020).

When it comes to council–Māori relationships it is unclear which mechanisms are truly effective in providing for Māori rights and interests and therefore ‘tika’ partnerships. While some councils may engage and utilise formal or legally binding ‘Tiriti tools’ with mana whenua (such as paid iwi representatives with voting rights on council committees or Māori wards), others may engage in informal or what we could describe as ‘te Tiriti-adjacent’ tools. For example, some councils have modest engagement with their partners which primarily involves periodic engagement or consultation with iwi, hapū or marae, instead of a formal inclusion of mana whenua in council decision making (Ashburton District Council, 2020). Councils may also focus on integrating cultural education and the use of te reo or Māori cultural concepts into their workplace as a core part of their engagement strategies (Henderson, 2019). While education and staff training are very important for building capacity within the kawanatanga sphere and assisting effective relationships with Māori, they do not provide for fuller Māori rights to rangatiratanga (Ministry for the Environment Review Panel, 2020).

Auckland Council utilises a range of ‘Tiriti tools’ or avenues to enable and engage with Māori. These include a legally binding partnership through the Independent Māori Statutory Board which includes board members with voting rights sitting on resource committees; the Tāmaki Makaurau Mana Whenua Forum; Ngā Māhārāe (Māori outcomes department);

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and five specific resource co-governance entities, boards or authorities.¹ It is significant to note that many of Auckland Council’s tools were not initiated by the council itself but rather were enforced through Treaty settlement or other legislation (the Ngā Mana Whenua o Tāmaki Makaurau Collective Redress Act 2014, Local Government (Auckland Council) Amendment Act 2010, Hauraki Gulf Marine Park Act 2000, Ngāti Whātua Ōrākei Claims Settlement Act 2012 and Ngāti Whātua o Kaipara Claims Settlement Act 2013). Ultimately it is difficult to say whether a good relationship between councils and Māori depends on legally enforceable Tiriti tools or not, and different contexts may produce different outcomes. However, formal arrangements do provide for a level of longevity and future-proofing.

In the Waitangi Tribunal *Ko Aotearoa Tenei* report (WAI 262) the Tribunal noted that ‘iwi should not have to spend valuable Treaty credits in full and final settlements to achieve what the RMA was supposed to deliver in any case’, and nor should they have to wait until Treaty breaches are settled to have proactive, positive and functional

relationships with regional and local councils (Waitangi Tribunal, 2011, p.273; Freshwater Iwi Leaders Group, 2015, p.5). Local government needs to actively invest in creating meaningful relationships with mana whenua and Māori that involve collaborative and adaptive decision making, where the different needs of mana whenua in specific regions are at the forefront. These relationships should not rely solely on Treaty settlement-based initiatives. A tika scenario would include ensuring that mana whenua have the resources to engage as a Treaty partner within the joint sphere, but also the capacity and resources to build the rangatiratanga sphere (Matike Mai Aotearoa, 2016). A tika scenario would also provide for greater weight to be given to iwi environmental management plans, where iwi outline their aspirations and policies relating to natural resources in their rohe. We recommended that the Local Government Act 2002 be amended to acknowledge the significance and importance of local governments’ te Tiriti obligations that accompany roles and responsibilities that have been devolved to them from central government. New legislation, such as the proposed Natural and Built Environments Act, should also include provisions for monitoring and auditing local government for te Tiriti compliance and achievement as recommended by the Randerson report, to better foster te Tiriti relationships (Ministry for the Environment Review Panel, 2020, p.91).

A fourth barrier inhibiting a tika transition is that mātauranga Māori is not always respected and considered in planning and decision making by local government, and as a consequence there is a lost opportunity for mutually beneficial decision making (Parahi, 2019). The processes that occurred following the 2005 Matatā flood have become an infamous example of poorly planned and executed coastal management (ibid.; Iorns, 2019). Catherine Iorns argues that ‘Treaty interests [were] insufficiently protected’ for many reasons, including lack of adequate consultation, effective engagement, active protection and good faith (Iorns, 2019, p.140). Matatā also provides a good example of the ways mātauranga Māori could have aided in better decision making. Dan Hikuroa has related a traditional story told by mana whenua in the Matatā area

about a taniwha in the form of a ngārara in the Waitepuru stream that would whip its tail around, reflecting the way the stream would change course when there was flooding or high water flow, as well as indicating the danger associated with this river (Hikuroa, 2016, p.7). This narrative helped to inform the placement of the four marae in the area. In the 2005 flood the four marae were undamaged and became safe zones, while many residential properties were severely damaged (ibid.; Iorns, 2019). In 2007 residents were told they could rebuild and continue living in the flood-damaged area (Iorns, 2019; Shand, 2017). The Whakatane District Council proposed building a dam-like structure to manage the flood risk of the Waitepuru and Awatarariki streams. Many of the iwi of Matatā were against the dam due to its closeness to wāhi tapu and urupā and had instead recommended looking into alternative options, such as retreat (Boffa Miskell, 2018, p.7; Tangata Whenua of Te Awa o Te Atua, 2007, p.9).

In 2021 many of the community completed the process of ‘managed retreat’ after further research and planning saw the council reclassify areas of land as ‘red-zoned debris flow risk area[s]’ (Bell, 2021). Unsurprisingly, people were angry and upset at having to move from their homes, particularly as many had rebuilt or bought into the area following the flood (Shand, 2017). If iwi values and knowledge, including the pūrākau of the ngārara, had played a more significant role in the decision-making processes the community of Matatā may have faced a more open, straightforward and tika managed retreat experience. Councils need to invest in cultural knowledge building within their own organisations, but also support the capacity of iwi and hapū to share and engage their mātauranga with the council as te Tiriti partners. Again, new legislation or policy should specify funding mechanisms for iwi, hapū and mana whenua to do so.

Positive steps towards a tika transition

What practices or policies are working to enable a tika transition?

The new National Policy Statement for Freshwater Management 2020 includes much stronger, action-based language that

In 2015 [Hamilton City Council] hired its first amorangi Māori (Māori relationship manager), who faced the enormous task of working to build better relationships between the council, iwi, mana whenua and maataa waka ...

the New Zealand Coastal Policy Statement should aim to emulate. It specifically states that ‘Tangata Whenua are actively involved in freshwater management (including decision-making processes)’ (policy 2), and also requires that every regional council involve tangata whenua in developing and implementing mātauranga Māori monitoring to the extent they wish to be involved (New Zealand Government, 2020, pp.9–11). Furthermore, the new policy is written and structured in a very different way from the New Zealand Coastal Policy Statement and the previous National Policy Statement for Freshwater Management (2014), as it has a framework and concept-based structure. The framework involves six principles, including three based within te ao Māori: mana whakahaere, kaitiakitanga and manaakitanga. Within its integrated management subclause, the policy also uses the concept of ‘ki uta ki tai’ (ibid., p.13). The use of these values and concepts alongside strong, action-based language regarding tangata whenua and decision making is a step in a tika direction.

Across the country, many councils are showing goodwill to improve their te Tiriti

relationships with Māori. Hamilton City Council is an example of a council that has taken active steps to improve its relationships with iwi and mana whenua in recent years. In 2015 it hired its first amorangi Māori (Māori relationship manager), who faced the enormous task of working to build better relationships between the council, iwi, mana whenua and maataa waka (Leaman, 2021a). In 2018 the council appointed paid iwi and maataa waka representatives, māngai Māori, who now sit on all subcommittees and have voting rights (Rowland, 2020). In early 2021 the council released its ‘He Pou Manawa Ora – Pillars of Wellbeing’ strategy, which ‘celebrates its special Māori heritage, rich history, natural environmental wonders and ensures everyone has a voice in developing its future’ (Hamilton City Council, 2021). The strategy was developed in partnership with Waikato-Tainui, Te Rūnanga Ō Kirikiriroa and Te Haa Ō te Whenua Ō Kirikiriroa and involves four pou of wellbeing: history, unity, prosperity and restoration. What is significant about this strategy is that it covers a broad range of issues, such as increasing Māori senior leadership within the council, increased inclusion of mātauranga Māori to inform development and the response to challenges such as climate change, increased co-management and engagement with iwi and mana whenua, and supporting Māori culture and businesses within Hamilton. The council in May 2021 voted in favour of Māori wards for their next election in 2022 (Leaman and Mather, 2021). While the council still has a long way to go, there has been clear progress and dedication to facilitating better partnerships with Māori.

Similarly, mātauranga Māori is beginning to be more significant to other councils around the country. The Bay of Plenty Regional Coastal Environment Plan acknowledges that ‘Mātauranga Māori is not always incorporated or considered in resource management, including monitoring, assessment and decision-making’ and the plan includes a range of policies advocating for the inclusion of mātauranga Māori (Bay of Plenty Regional Council, 2019a, p.14). Furthermore, the Bay of Plenty Regional Council has also created its own framework for respecting and supporting mātauranga Māori, He

Korowai Mātauranga, which includes a range of strategies and objectives for the council to better understand and include mātauranga Māori within its decision making (Bay of Plenty Regional Council, 2019b). Currently there are no examples of this practically occurring within the council with regard to the coastal area, as both the plan and framework are relatively new, but they are encouraging steps.

Taonga and kaitiaki obligations

The second area we will discuss relates to taonga and the obligation of Māori as kaitiaki to protect taonga and taonga species, commonly understood as comprising Aotearoa's 'native biodiversity'. These issues connect with the Resource Management Act changes, but also to strategic policy formulated by the Department of Conservation and Ministry for the Environment. Māori have consistently demonstrated their interest in actively fulfilling their kaitiaki obligations (Waitangi Tribunal, 2011). Ensuring that kaitiaki are able to assist in halting the biodiversity decline in Aotearoa is central to mitigating and adapting to climate change. Within this context, what arrangements are currently barriers to a tika transition, what changes are needed, and where can positive steps be seen emerging?

Towards a tika transition: barriers and solutions

The use of Māori taonga and cultural knowledge without the active recognition and protection of Māori rights and interests in taonga species and biodiversity management is a major area of concern and inhibits a tika transition. While many of DOC's policies appear to be supportive of Māori rights, they have not translated yet into a sharing of power (the Conservation Act 1987 does not currently allow for delegation to iwi or hapū authorities) or funding, and concepts like 'kaitiakitanga' are increasingly in danger of being appropriated away from their cultural and political context of the rangatiratanga sphere. Te Mana o te Taiao is a DOC-led strategy on biodiversity in Aotearoa which emphasises 'placing the Treaty partnership at the centre of biodiversity work', and many objectives and outcomes are aimed

Commercial
concessions on
conservation land
often rely on the
taonga within the
area for
businesses
success: for
example, guided
bird watching
tours ...

at enabling iwi, hapū and whānau to be 'rangatira and kaitiaki' (Department of Conservation, 2020c, pp.17, 43). The strategy also identifies seven key values needed 'to achieve Te Mana o te Taiao', all of which are based within te ao Māori: kaitiakitanga, mahi whaipanga, ngākaunui, mahi tahi, whakapapa, tohungatanga and manaakitanga (ibid., p.44). The values described by DOC fundamentally rely on iwi, hapū and whānau to co-design, co-deliver and engage with DOC in the joint sphere. However, conservation legislation and policy as it stands does not provide adequate leadership or governance roles for Māori (Ruru et al., 2017).

The Ngā Whenua Rāhui Fund administered by DOC has provided some good opportunities for Māori landowners to protect their lands and ecosystems. However, the fund operates within the kawatātanga and joint spheres, and ultimately continues to limit the extent and exercise of Māori rangatiratanga (Department of Conservation, 2020a). It is imperative that the rangatiratanga sphere be supported, resourced and provided jurisdiction separate and distinct from the joint and kawatātanga spheres. For the biodiversity strategy to genuinely reflect a Treaty partnership it would need to provide resourcing and decision-making power for the rangatiratanga sphere. It is unclear

from its 2020 budget how the Department of Conservation is actively investing in iwi, hapū and whānau (the rangatiratanga sphere) to be at the centre of its biodiversity work programme as it claims (Department of Conservation, 2020b). In 2021 an audit by Deloitte of DOC's percentage revenue framework (its fee structure for activities on public conservation land) found many issues and opportunities regarding the ways the department has engaged and could engage with iwi, hapū and mana whenua, specifically relating to the financial management of conservation lands but also to management of the lands more generally (Deloitte, 2021). Commercial concessions on conservation land often rely on the taonga within the area for businesses success: for example, guided bird watching tours (<https://wrybill-tours.com/services-tours/>).

When DOC-led strategies and policies use Māori concepts, such as Te Mana o te Taiao, it is particularly important, as part of a tika transition, that Māori and their political entities within the rangatiratanga sphere either lead or are equal parties in the design, implementation and evaluation of these strategies, and that includes being equally funded. Otherwise, those Māori concepts and Māori taonga are simply being appropriated or exploited by the Crown, and third parties, without consent, likely creating te Tiriti breaches. We hope that the current review of the department's general conservation policies ensures the active protection of Māori rights and co-design, co-implementation and co-evaluation with Māori in the joint sphere, and supports the capacity and leadership of the rangatiratanga sphere.

A second area inhibiting a tika transition is the lack of recognition of existing Māori practices to protect biodiversity, providing carbon sinks and supporting environmental resilience for adaptation. The Climate Change Commission has noted the contribution Māori have made to emissions reductions 'either through carbon sequestration, culturally significant lakes and rivers being utilized to produce renewable energy, or the opportunity cost of not converting and developing natural environments' (Climate Change Commission, 2021, p.12). 47% of Māori land is covered in indigenous forest

or scrub, 13% in exotic forests and 29% in exotic grasslands. Compared to land managed under other land tenure forms, Māori land has proportionally more Indigenous and exotic forests and less exotic grasslands (Harmsworth, 2003, p.33; Ministry for the Environment and Statistics New Zealand, 2018). However, current mechanisms available to support forested areas have excluded pre-1990 forests and contributed to the failure to recognise Māori contributions.

Another area where Māori contributions are not well recognised or supported relates to the numerous kaitiaki activities that Māori engage in, many of which are in the public interest, not simply of benefit to Māori. At present, hapū, iwi and Māori bear the burden and costs associated with nurturing the environment, such as through riparian planting and managing lands and other resources in a manner which tends to sacrifice short-term maximisation of economic profit for longer-term sustainability goals, conducting environmental monitoring, upholding mātauranga practices, and engaging in biosecurity protection using tikanga methods, such as rāhui based on mātauranga, often without financial reward or recognition (see, for example, Parininihi ki Waitotara, 2020). Māori are also expected by the Crown to participate at a low level in 'engagement' processes around the exploitation of natural resources, which they may have opposed and which include no recognition of their rights, such as for petroleum or minerals (Bargh and Van Wagner, 2019). At present most hapū and iwi either use parts of their Treaty settlement monies, which were 'redress' for previous and usually separate breaches of te Tiriti, or cobble together grants on an ad hoc basis from the Crown to fulfil their kaitiaki duties. It is not tika for Māori to have to expend resources received in acknowledgement of previous Treaty breaches and failures of the Crown for the purposes of trying to prevent further breaches.

A tika transition will involve funding Māori to build capacity for kaitiaki operations and to fulfil their rangatiratanga role alongside the Crown's kawanatanga. This was reiterated in the Randerson report, which recommended that funding be

Councils and government authorities need to better support and trust hapū, iwi and Māori as they enact tikanga Māori, such as with rāhui.

provided to Māori who are undertaking resource management duties in the public interest (Ministry for the Environment Review Panel, 2020, p.116). The Waitangi Tribunal has also recommended that 'the Crown take urgent action on the problem of under-resourcing of Māori participation in RMA processes' (Waitangi Tribunal, 2019, p.xxiv). Funding for Māori authorities is also required nationally to support Māori maintaining and improving forests and wetlands, such as through seed collection, native plant nurseries and selectively replanting. The Zero Carbon Act needs amendment to financially acknowledge the carbon stored in native forests, scrub and wetlands on Māori land, and a new Natural and Built Environments Act needs to specify funding for iwi to participate in resource management and governance processes.

Māori efforts to protect biodiversity with tikanga Māori law tools such as rāhui are not widely or consistently supported despite their ability to provide environmentally positive outcomes. In 2017 Te Kawerau ā Maki, mana whenua of the Waitākere Ranges, placed a rāhui over this area in response to the alarming rates of kauri dieback in the forest. The iwi encouraged Auckland Council to issue a controlled area notice to stop the public entering the forest (Te Kawerau ā Maki, 2017; King, 2017). Auckland Council was slow to officially support the iwi rāhui, while much of the Waitākere community, the Tree Council, Forest & Bird, the

Independent Māori Statutory Board and Te Tira Whakamātaki (the Māori biosecurity network) were all supportive of the rāhui (Mark-Shadbolt, Wood and Ataria, 2018). It was not until late in 2018 that a controlled area notice was put in place and areas of the Waitākere Ranges became 'legally' closed to the public (Auckland Council, 2018). During the council's inaction thousands of people visited the forest, not acknowledging or not registering the rāhui as a form of law (Lei'ataua, 2018).

There are many other examples of iwi or hapū around the country applying rāhui, often in coastal areas and in relation to specific marine species (for example, Ngāti Hei, Ngāti Paoa, Ngāti Kahu) (Rolleston, 2021; Swannix, 2018; Ngāti Hei Trust, 2017). While the Fisheries Act 1996 does hold provisions for customary tools such as rāhui to be 'legally enforced' (s186), this can be a lengthy process, involving official requests, consultation and reviews by the Ministry for Primary Industries, and does not always result in support for or endorsement of iwi requests. Therefore, many iwi and hapū rely on support from the community, including councils.

Councils and government authorities need to better support and trust hapū, iwi and Māori as they enact tikanga Māori, such as with rāhui. The New Zealand Council of Legal Education is currently considering changes to the university legal studies curriculum to include the teaching of tikanga Māori as Aotearoa's first source of law (Borin Foundation, 2020). Such moves suggest further funding is needed for the tikanga expertise which sits within the rangatiratanga sphere.

Positive steps towards a tika transition

What practices or policies are working to enable a tika transition?

There is evidence internationally that indigenous peoples better manage the biodiversity on their lands than other landowners (BC First Nations Energy, Mining Council and UVic Environmental Law Centre, 2021; Waller and Reo, 2018; Borrows and Praud, 2020). An example of this in Aotearoa is the Riri A Te Hori 2 wetland restoration development. In 2011 owners of the Māori freehold land reserve decided to change what was happening on

their whenua, previously being leased out and managed by an external administrator (Bailey, 2015). The Riri A Te Hori 2 A Whenua Trust reserve land is located south-east of Pūtihi in Whanganui. In 2014, through funding from Te Wai Māori Trust, the low-lying lands were restored into a wetland, connected to the Whanganui River by the Awarua stream (ibid., p.3). The wetland brings not only ecological and biodiversity gains, such as increased bird life, tuna and native bush, but social and cultural gains too. The landowners and wider community, including kura kaupapa students, the city council, DOC and Fish & Game have all engaged with and shown enthusiasm for this project and its successes. Across the country there are similar stories of Māori communities small and large engaging in practices and processes that are beneficial for the environment and taonga species. The protection of biodiversity and the sustainable management of forests and wetlands assists in mitigating climate change by supporting 'carbon sinks' and adaptation by creating resilience of local economies and ecologies (Williams-Davidson and Sarra, 2021). As discussed above, a tika transition would include a systematic acknowledgement of and reward for this kind of wetland restoration by the government.

There are numerous examples across the country of iwi and hapū consistently investing in creative sustainable management options when they have supportive funding mechanisms. As part of their Treaty claims settlement Ngāti Whātua Ōrākei were returned the land now called Whenua Rangatira and the Pourewa Creek Recreation Reserve. The lands are managed by the Ngāti Whātua Ōrākei Reserves Board, a co-governance entity with representatives of the iwi and Auckland Council. A significant clause in the arrangement is that all 'costs and

expenses incurred in and incidental to the control and management' of both the Whenua Rangatira and Pourewa Reserve must be paid by the Auckland Council, 'to the extent that any income arising from the reserve is insufficient to defray those costs and expenses' (Auckland Council, 2021; Ngāti Whātua Ōrākei Claims Settlement Act 2012, ss69(1), 46(7)).

The Reserve Board aims to manage the land in an integrated way that supports both the iwi and the people of Auckland, culturally, socially and environmentally (Auckland Council, 2021). A large-scale visual framework has been created by Ngāti Whātua Ōrākei to envision the future potential of both the Pourewa Reserve and the Whenua Rangatira lands (Ngāti Whātua Ōrākei, 2018). The framework describes a vision for the land that incorporates aspects of land protection, education, celebration, culture, community, entrepreneurship and engagement with hapū and the wider community. Already projects have begun to restore native bush on the whenua, create seed banks for the iwi and share food and rongoā with the whānau of Ngāti Whātua through their māra kai and māra rongoā (Farming and Nature Conservation, 2021; Ngāti Whātua Ōrākei, 2021). A tika transition would include mechanisms in legislation and in national direction provided to local government to ensure that these kinds of projects are systematically created, funded and supported nationally and locally.

Conclusion and recommendations

In this article we suggest that a tika transition should guide policies related to climate change adaptation and mitigation. We have highlighted a selection of practices and policies that are standing in the way of a tika transition.

New legislation that focuses on both managing natural resources and the

climate adaptation process must include stronger and action-based instruments for shared decision making. A prerequisite for ensuring that Māori participate on an equal footing in shared decision making in the joint sphere is for hapū, iwi and Māori to have their distinct political identities in the rangatiratanga sphere of equal strength to the kawanatanga sphere. Central and local government must also continue to build their own capacity to understand, engage and respect mātauranga Māori. We have argued that when Māori concepts and mātauranga are used by government agencies within policies and strategies, these must be led, developed and evaluated from the rangatiratanga sphere by hapū, iwi and Māori. Many of the barriers and solutions discussed are interconnected. Better relationships will mean stronger trust; stronger legislation and policy (including funding for the rangatiratanga sphere) will support better relationships. This will all support better outcomes for the environment.

The hopeful examples provided here indicate that the growing recognition of te ao Māori is accompanied by an acknowledgement that tikanga Māori possesses many of the key ingredients to support the transition to a low-carbon economy, and one which uses natural resources in a more thoughtful way. Increasing recognition of tikanga and te ao Māori by the Crown and non-Māori has provided reaffirmation for hapū and iwi Māori who have continued to practice tikanga in diverse and changing ways, and it provides hope that modest and bolder steps in a tika direction might continue to proliferate.

¹ Tūpuna Maunga o Tamaki Makaurau Authority, Te Poari o Kaipatiki ki Kaipara, Ngāti Whātua Ōrākei Reserves Board, Hauraki Gulf Forum and Kaipara Harbour Management Group.

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Elisabeth Ellis

A Just Transition to Climate-resilient Coastal Communities in Aotearoa New Zealand

Abstract

Even if global emissions of greenhouse gases were to fall to zero immediately, still we would expect significant sea level rise over the next half century, along with increased frequency and intensity of inundation events and coastal erosion. While this fact has been widely appreciated by public servants and policymakers, the ethical implications and distributive consequences of our climate adaptation policy decisions have not. Decisions to allow new development in areas likely to become uninhabitable could transfer investment risks from property owners to the public, for example, while decisions to relocate existing at-risk communities could disempower already relatively disadvantaged groups. A just transition to climate-resilient coastal communities will require reduced policy uncertainty and enhanced democratic decision making.

Keywords just transition, sea level rise, climate justice, climate change adaptation, climate ethics, decision making

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Climate change is already affecting coastal security (among other things) in Aotearoa New Zealand. However, given that the sea level is rising at an ever-faster rate, we can anticipate that the rate at which adverse events occur will rise over time as well, leading to increasing political salience as well as material and other losses (Climate Change Adaptation Technical Working Group, 2018). The most important thing to understand about the risks associated with sea level rise is that a significant amount is already locked in; in other words, even with no additional greenhouse gas emissions (*per impossibile*), the sea level would continue to rise for a long time. For Aotearoa New Zealand, this means that with no further greenhouse gas emissions worldwide we would still expect an eventual 1.6–1.7m of sea level rise, but the less we emit from now, the longer it would take to reach an eventual equilibrium (Bell et al., 2017). We cannot prevent sea level rise from occurring, but mitigation can slow it down. Emissions

reduction and adaptation mutually affect each others' ranges of possibility such that they are better conceived together, from a just transition perspective, as climate action (Frame and Reisinger, 2016).

The IPCC (2018) report on the importance of limiting the rise of global mean temperature to 1.5°C above pre-industrial norms noted that if this ambitious target is met, models predict a rise of between 0.26 and 0.77m by 2100. The same report cautioned that instabilities associated with the possible loss of ice sheets in the Antarctic or Greenland could lead to much higher rises in sea level. Clearly we should presume both of the following propositions: first, that the specific circumstances for which New Zealanders must plan are difficult to predict; and second, that increases in the frequency and intensity of sea level rise-related adverse events over the next half century (at least) are nearly certain to obtain. In short, we know the direction, if not the rate or precise orders of magnitude, of change to expect.

The Ministry for the Environment's guidance for local government notes that climate change is interfering with settled norms about planning:

The community anticipates that the land along the coastal margin will persist permanently, and that those living there will be safe from natural coastal hazards (apart from rare tsunami or storm events). Sea level rise from climate change challenges this perception. (Bell et al., 2017, p.17)

A cautious estimate of at-risk populations and property commissioned by the parliamentary commissioner for the environment estimated that at least 3% of the people in Aotearoa New Zealand and many tens of thousands of buildings, along with at least five airports and thousands of kilometres of roads, would be affected by up to 1.5m of sea level rise (Bell, Paulik and Wadhwa, 2015). A few years later, Local Government New Zealand estimated that the replacement cost of three-waters pipes alone would be \$1.6 billion at a metre of sea level rise (Local Government New Zealand, 2019, p.9). At only 0.3m of sea level rise (and thus at a level already locked

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in and probable over the next half century), more than 4,000km of three-waters infrastructure pipelines are exposed to risk, along with nearly 70,000 buildings, according to a NIWA report commissioned by the Deep South Challenge (Paulik et al., 2019). Even in the nearer term, over the next 20 years, we can expect sea level rise and its concomitant risks to lead to insurance retreat for more than 10,000 homes in Aotearoa New Zealand (Storey et al., 2020).

Pipes, roads, buildings, infrastructure, and the residents who collectively use those resources to interact with one another comprise communities that are expected

to last indefinitely. In the context of climate change, however, regular maintenance of the kind that repairs ageing infrastructure or expands service to new populations will fall far short. The adaptation options facing at-risk communities in Aotearoa New Zealand over the rest of this century range from minor engineering to nature-based solutions all the way through to major engineering and managed retreat (Lawrence et al., 2020; Bell et al., 2017). Continuing under business as usual is not an option for at-risk communities.

These new circumstances undermine the conditions under which New Zealanders interact with one another in relative safety and fairness; the challenge of climate adaptation threatens to exacerbate existing injustices and to create new ones. The losses arising from sea level rise are foreseeable: even if we don't know the exact rate of acceleration of risk, we can be reasonably certain that vulnerable properties will eventually lose value (Tombs et al., 2021). As if the societal stressors based on changing physical circumstances weren't severe enough, they are compounded by policy uncertainty. In what follows I identify some specific injustices that arise from policy uncertainty in the context of sea level rise. I then recommend some policy responses that would allow interaction even in a context of adaptation to climate change – which is to say, even in a context of persistent 'deep uncertainty' – to proceed with sufficient security and fairness (Marchau et al., 2019).

Just transition and climate action

'Just transition' has evolved from conceptual roots in the labour and environmental justice movements into a mandate for societies to mitigate and adapt to climate change while reducing inequality and promoting justice (McCauley and Heffron, 2018; Pinker, 2020). Just as 20th-century efforts to do right by workers and communities transitioning from highly polluting industries used the idea of just transition to express intuitions about burden sharing, protecting the least advantaged, respecting local agency and sustaining environmental values, so present-day just transition efforts seek to ameliorate existing injustices while avoiding introducing new ones.

The ideal of a just transition is simultaneously strategic and normative. It is strategic insofar as it expresses the political insight that attempts to transition at the expense of particular sectors or social groups are likely to be self-defeating (Gambhir, Green and Pearson, 2018; Broome, 2010; Frame, 2019). The ideal of a just transition is normative insofar as it rejects centuries of moral irresponsibility regarding the costs of transformation (Polanyi, 1985; Bainton et al., 2021). In committing to the ideal of just transition, states, intergovernmental organisations and non-state actors are embracing their collective responsibility for climate action and its human and environmental consequences (Boston and Hall, 2019).

The world has set itself the task of transformation to a low-emissions economy over the next half century or sooner, in order to avoid the worst consequences of climate change (IPCC, 2018). Though the earth system transformations set in motion by industrialisation will continue far beyond the next 50 years, we are experiencing many of these changes already in the form of weather extremes, sea level rise, ocean acidification, and other departures from the physical conditions in which human societies have traditionally thrived (Steffen et al., 2018; IPCC, 2014).

Societies transitioning to low-emissions economies are operating in rapidly changing conditions characterised by difficult-to-specify feedback loops and tipping points, even as the overall direction of change is well understood (Lenton et al., 2019). This means that siloed decision making about transitioning for climate mitigation, on the one hand, and about adapting to climate change, on the other, is subject to predictable and avoidable errors, such as maladaptive decisions for new low-emissions enterprises or adaptive strategies that compound climate risk. Just transition efforts must aim at holistic climate action, transforming society for climate resilience and for minimal or positive climate impact.¹ Just transition in the 21st century must be conceptualised as realising justice in *climate action* and not just emissions mitigation; siloed thinking is no longer an option if we would transform societies

... a holistic conception of just transition for climate action should guide our understanding of the strategic and normative challenges of adapting to sea level rise in Aotearoa New Zealand.

towards sustainability and justice (Atteridge and Strambo, 2020).

Among the most basic intuitions associated with just transition is the ideal of a social contract. People expect that if they adhere to ordinary societal norms in their efforts and interactions (working hard, playing by the rules, and so forth), the state will ensure that they are able to interact under conditions of reasonable security and mutual wellbeing. People need to be free to undertake the individual and cooperative actions that lead to their thriving in safety, and they cannot ask the permission of everyone affected each time they engage in other-affecting action (especially since many of those people have not yet been born). Instead, people rely on a more or less informal social contract to provide the rules under which they can presumably (if imperfectly) interact without wronging each other. In transitions that have come to be seen as unjust, workers and communities have worked hard and played by the rules, and nevertheless lost the conditions under which they could thrive in safety; this loss undermines people's faith in critical background rules understood as the social contract.

Modern industrialised democracies feature systems oriented towards the realisation of this common view of the social contract as guaranteeing fair and relatively low-risk interaction (Ellis, 2006). State-regulated systems of money and law work in the background of the innumerable interactions that make up our vast, anonymous trading societies, limiting our exposure to risk and ensuring that we can claim that our winnings (or losses) count as our fair share. Of course these systems are wildly imperfect, but we rely on them nonetheless. Without rules of the game underwritten by the state, we would be left to manage our interactions on our own, and we would all be much less well off.

State regulatory systems must constantly adapt to new societal circumstances in order to retain their legitimacy by performing this background underwriting of the rules that allow us to interact with manageable risk and sufficient fairness. New challenges – changes in the circumstances of ordinary interaction – can open up gaps in the rules that increase risk and undermine fair play.

The imperative of just transition to climate resilience is just such a challenge. People experiencing the societal transformations associated with climate change rely on general rules governing their interactions to ensure that decisions they make and the actions they take are consistent with the commonly accepted rules of the game. Whether the rules aim to reduce emissions or to adapt to climate change-driven circumstances, what matters most for achieving a just transition is that they are *certain*, so that people making decisions can be assured that the state has ruled out decisions that violate the social contract. Many different policies on climate action would provide this kind of societal certainty, regardless of the policies' specific contents. But when policy uncertainty under changing climate conditions calls the rules themselves into question, people can no longer rely on the social contract to guarantee their collective and secure thriving together.

Thus, a holistic conception of just transition for climate action should guide our understanding of the strategic and normative challenges of adapting to sea level rise in Aotearoa New Zealand. Without attention to the need for policy certainty that underlies

fair interactions (and other critical elements of just transition, such as community engagement), New Zealanders transitioning to a low-emissions, climate-resilient society risk exacerbating existing injustices while introducing new ones. The next two sections of this article examine a particularly trenchant challenge for Aotearoa New Zealand from the perspective of just transition: adaptation to rising sea levels and increases in the frequency and intensity of events like erosion, inundation and intrusion that accompany climate change.

How new development in areas subject to sea level rise transfers risk to the public and to future generations

The first climate adaptation challenge for a just transition in Aotearoa New Zealand has to do with risky new development; I discuss the second challenge, having to do with at-risk existing development, in the next section.²

In 2014, 81% of New Zealanders surveyed by the University of Auckland affirmed that climate change is real, with 69% affirming that climate change is caused by humans (Milfont, Wilson and Sibley, 2017). Certainly we should be able to presume that from that date forward, if not earlier, understanding climate risk would be an aspect of due diligence on the part of everyone who invests in property at risk of coastal erosion, increasingly frequent floods, water table rise, saltwater intrusion, or other consequences of climate change.

However, we are not seeing signs of due diligence regarding climate risks affecting new property development (Stewart, 2021). Instead, prices of coastal property are rising, and both public and private investors are busy adding value to properties that at best will require expensive engineered defences and infrastructure support, and at worst will have to be abandoned and replaced with more climate-resilient public amenities like wetlands. At present, local government can refer to guidance from central government and to the New Zealand Coastal Policy Statement; these offer recommendations that risky new development be avoided. However, in the absence of uniform rules that would remove the uncertainty about responsibility for eventual sea level rise-related losses, development of at-risk areas is ongoing

From a strategic perspective, the status quo in the rules governing risky new development incentivises free-riding: under present conditions, a rational investor will seek to realise the gains available from adding value to risky but desirable coastal properties while transferring the losses of such investing to the public.

(Iorns Magallanes and Stoverwatts, 2019). A market that distributes investment resources irrationally, both in time (developments will not last their expected span) and in space (they are built in risky locations), cannot fulfil the expectations New Zealanders have that the state will ensure fair and secure interactions. As we shall see, these market failures signal policy uncertainty: a gap in the rules governing our interactions in the area of risky new development under conditions of climate change.

Our common (if usually tacit) background understanding of the Aotearoa New Zealand social contract supports an investment context in which private insurance prices the risk of unpredictable natural hazards, while government evaluates and mitigates foreseeable natural hazards; banks are expected to factor risk into their lending behaviour, as are individual investors (Lawrence et al., 2020). Meanwhile, our collective memory and the shared value of solidarity incline us to presume that the state will offer assistance to those affected by natural hazards (Tombs and France-Hudson, 2018). Aotearoa New Zealand's institutional context reflects these histories and values: EQC makes sense to a country with very recent memories of traumatic earthquakes, not to mention landslips, floods and other natural disasters. How does climate change alter this set of institutions and expectations? The critical difference is this: we can now identify locations for potential development whose climate-related risks are well understood, but our background assumptions and institutions still treat them as if they were like the rest of Aotearoa New Zealand, subject to relatively unpredictable natural hazards.

This new information about climate-related risk, coupled with old institutions and norms that treat losses from natural disasters as especially deserving of solidaristic compensation, has altered the character of the way investors relate to society as a whole. The moral hazard of offloading risk to the public while retaining gains in private is, of course, ubiquitous; this is why we have excesses built into insurance contracts, for example. In this new case, however, investors find themselves playing what amounts to a game of 'chicken' with the public: they are betting that the state will 'swerve' in the event of large climate-related losses, providing compensation for property lost and damaged by natural hazards like coastal erosion or floods as if they were as unpredictable as earthquakes. However, in these new cases of developing land at risk due to sea level rise, the hazards are anything but unpredictable (Ellis, 2018).

Recall that the just transitions perspective is both strategic and normative. From a strategic perspective, the status quo

in the rules governing risky new development incentivises free-riding: under present conditions, a rational investor will seek to realise the gains available from adding value to risky but desirable coastal properties while transferring the losses of such investing to the public. Were we in a position to provide it, certainty about responsibility for climate-related loss would shift the strategic landscape from one in which investors are encouraged to transfer risks to the public to one in which everyone is encouraged to invest in less risky areas. From a normative perspective, under the status quo burdens are likely to be transferred to those less advantaged, and there is additional ongoing inequality related to variation in local government behaviour. Local government remains responsible for mitigating natural hazards and providing infrastructure even in areas known to be at risk of increasing inundation, coastal erosion and the like (Iorns Magallanes and Stoverwatts, 2019). Thus, an additional normative shortcoming of the status quo in development of at-risk areas is that it transfers burdens of responsibility to future generations of ratepayers (Boston and Lawrence, 2017).

How we make decisions about existing at-risk development affects both agency and equality

It is one thing to decide, in 2021, to invest a substantial sum of money in developing coastal property at risk of erosion and increasingly frequent and extreme inundation, hoping that Aotearoa New Zealand's tradition of solidarity in the face of natural hazards will mean that present and future publics will shoulder the burden of one's eventual losses. It is quite another thing to discover, in 2021, that the home one has inherited and the community to which one belongs are, through no fault of one's own, subject to serious and accelerating climate-related hazards (Tombs et al., 2021). The scale of the problem of at-risk existing development in Aotearoa New Zealand is staggering: previous efforts to support community relocation in the face of new natural hazards have addressed as many as a few dozen properties at a time; over the next century, many thousands of homes in hundreds of communities are at risk of

Normatively, our policies governing risky new investment and existing at-risk areas are likely to increase inequality and exacerbate societal divisions, while reducing overall wellbeing due to missed opportunities for proactive climate policy

becoming uninhabitable, and decisions will have to be made about what steps to take to address those risks (Bell, Paulik and Wadhwa, 2015).

Existing property at risk of inundation and other climate-related threats can be given protection in the form of hard engineering solutions like a sea wall, or in softer forms like restoring dunes or wetlands. Depending on the degree of risk (and, of course, on the emissions path taken collectively by humanity), these protections are more or less temporary. All coastal protection efforts have associated consequences. For example, building a sea wall to protect at-risk coastal property will lead to the loss of the beaches between the wall and the ocean, reducing the area's original amenity value while subjecting the wall to increased environmental pressure (Pilkey et al., 2016). Allowing property owners or coastal communities to make decisions about their protection from coastal hazards (say, by building sea walls) vindicates an important element of the ideal of just transition: the value of agency, or

having a say in the policies that affect you (Ellis, 2018). However, vindicating the agency of uncoordinated property holders along a coastline by allowing them to decide to build sea walls can lead to unintended collective consequences, such as the widespread loss of desirable amenities like access to beaches. Adaptation to sea level rise according to the ideal of a just transition should seek to accommodate both the value of local agency and the value of coordination to prevent unintended consequences.

To take a different example of the possible consequences of climate action for a just transition, retreat from an area of natural hazard can lead to a range of consequences depending on the principles instantiated in the transition. A common principle used to make decisions about protection of existing at-risk property is the principle of utility cashed out as market value. Standard cost-benefit analysis would prescribe that resources devoted to protection of an asset should be commensurate with the expected value of that asset over time. However, it should be noted that in practice the application of standard market valuation of at-risk assets will exacerbate existing inequalities in a way contrary to the principles of just transition. 'The rich get sea walls and the poor get moved' is not a principle that resonates with the ideal of a just transition, but it follows from the application of market-based risk analysis (Ellis, 2018). Thus, adaptation to sea level rise according to the ideal of a just transition will not only seek to accommodate both agency and coordination values, as mentioned above, but will also consider non-market values like social and community value (Orchiston and Stephenson, 2018).

Climate action for a just transition in Aotearoa New Zealand

As we have just seen, the status quo in climate adaptation policy in Aotearoa New Zealand is inconsistent with the ideal of a just transition. With regard to risky new investments, the structure of current incentives encourages free-riding and discourages the investments with the most long-term societal value. With regard to at-risk existing communities, the structure of current policies allows for some expression of local agency, but with little scope for the realisation of longer-run community and

national interests, and with little ability to recognise non-market values like the values embedded in existing communities. Strategically, our present lack of action in response to sea level rise undermines our capacity to reach the best and longest-lasting solutions. Normatively, our policies governing risky new investment and existing at-risk areas are likely to increase inequality and exacerbate societal divisions, while reducing overall wellbeing due to missed opportunities for proactive climate policy (Boston and Lawrence, 2017). Fortunately, there are solutions to these problems; even better, some of the best solutions are beginning to be put into place in pilot efforts around the country.

Policy for risky new investment

There is no universal 'right answer' to the question of the most just resolution of the trade-off between market value and social solidarity; national communities need to realise their collective commitments through legislation that expresses the right mix of subjecting investments to the risk-identifying discipline of the market and protecting people from the vicissitudes of nature (O'Neill and O'Neill, 2012). Whatever the correct balance for a particular country, however, that country will suffer injustice and disutility so long as there is uncertainty about which path it will choose.

The question of responsibility for property loss and damage from natural hazards brings this trade-off into sharp relief: who will be responsible for the losses when sea level rise makes coastal properties built in 2021 uninhabitable? The sooner we have an answer to this question, the more rapidly we can transition away from the policy status quo that now divides us. Whether we commit to a relatively solidaristic, EQC-like scheme of state investment for future compensation or to a more individualistic system of market-driven incentives, once we commit as a nation to things like universal rules limiting consents for risky developments, or a date after which subsidised insurance for risky properties will be limited (but see Boston, 2019, p.36), or some other device, we will have removed the policy uncertainty that is driving the injustice of our current circumstances.

As with policy solutions for risky new investments, in the area of protection of existing at-risk communities there is no universal 'right answer', but there are some promising options for balancing these values.

Another dimension of remediation for policy uncertainty is the timely and transparent provision of information. For example, prospective purchasers of properties should be able to learn about exposure to climate risk on their land information memoranda. Reliable information about risk would contribute to fair and secure relationships without the market and societal burden of information asymmetries; additionally, a uniform national context of the requirement to provide reliable information about climate risk would reduce incentives to make temporally and spatially irrational investments. An additional policy option that would have a similar market-rationalising effect would be the introduction of a land tax, either generally or specifically for at-risk and risk-adjacent properties. Land taxes reward productive investment in improvements while taxing away rents from unearned changes in value. As New Zealanders in at-risk areas come to see the prospect of managed retreat as increasingly likely, they could be subject to perverse incentives to invest in temporarily valuable assets such as adjacent properties likely to host retreating residents. Both

reliable information about policy contents and timelines and other measures like a land tax would increase the certainty that underlies fair and secure interaction.

Policy for at-risk existing communities

The problem of protecting existing at-risk communities from sea level rise and its associated hazards also involves negotiating a trade-off, but in this second case, rather than a trade-off between market individualism and social solidarity, we are concerned with a trade-off between local agency and national coordination. We can illustrate this trade-off if we imagine an engineer from Auckland or Wellington arriving at a provincial town threatened by coastal erosion and announcing that the long-run climate risks mean that local people must make expensive investments or even retreat from their community, and soon. The engineer is not technically wrong about climate risks, but the engineer's perspective in this imaginary example prioritises national-level coordination and long-term rational infrastructure investment over local values like fair distribution of climate burdens and enjoyment of their property over the next one or two generations. How can we address accelerating climate-driven risk without compromising local agency or national coordination?

As with policy solutions for risky new investments, in the area of protection of existing at-risk communities there is no universal 'right answer', but there are some promising options for balancing these values. As we saw above, uncoordinated local agents making decisions about protection from sea level rise can lead to unintended – and unfortunate and unsustainable – collective consequences. The solution to uncoordinated local agency, however, is not to reduce local agency, but to coordinate it. Individual property owners responding to uncertain mixes of market and regulatory incentives will not be able to protect their communities sustainably; we can see examples of this dysfunctional dynamic everywhere, from eroded beaches beyond private sea walls to the dispersed communities from the Lower Ninth Ward neighbourhood of New Orleans after Hurricane Katrina. However, local individuals and communities can exercise

agency in decisions about protection from climate risk through state-led processes of deliberation and engagement (Schlosberg, Collins and Niemeyer, 2017).

Here in Aotearoa New Zealand, local governments are experimenting with community-engaged climate risk deliberation. In the Hawke's Bay region, for example, councils and iwi have collaborated to create a sustained community engagement effort that connected local residents with technical and policy experts to make decisions about the method and timing of climate adaptation efforts (Lawrence, Bell and Stroombergen, 2019; Ellis, 2018). In coastal Dunedin, local government and community groups are collaborating to engage residents in decision making about coastal resilience, using multiple methods to reach the widest possible network, including online decision-making exercises, family-oriented events like print-making workshops, and meeting community members where they are with artwork, information boards and hui (Dunedin City Council, 2021).

Efforts like these can manage trade-offs between local agency and national coordination if they are supported with substantial resourcing and guidance from central government. Without those things, efforts to take timely action to prepare for rising seas and their consequences will depend on unevenly distributed local resources, and subject people to different levels of contribution and risk depending on their location. Moreover, substantial efforts to iteratively engage local residents in wrestling with the trade-offs inherent in climate action are likely to reach policy decisions that are sensitive to issues of justice (Dryzek and Niemeyer 2019).

Policy for just transition to climate-resilient coastal communities

As we have seen, the issue of compensation for losses associated with climate change is central to the issue of just transition.

At a fundamental level, just transition is about vindicating the social contract by leaving no one behind as we move to a low-emissions and high-resilience society. In Emmanuel Macron's France, the protesters of the 'yellow vest' movement rejected a petrol tax that was viewed as hitting ordinary commuters and rural residents while giving the biggest, wealthiest emitters a free pass. Similar rejections of policies perceived to transfer the burdens of climate action to the more vulnerable have occurred in Switzerland, Washington state in the US, and elsewhere. Strategically, for climate action to be perceived as part of a just transition, it must be perceived as fair; normatively, such action must not transfer the most risk to the least advantaged.

What compensation policy for climate-related loss and damage would satisfy the demands of just transition? As before, there is no single 'right answer' to this question. Instead, there is an imperative to eliminate policy uncertainty as far as possible, balanced against the imperative to preserve people's democratic agency in having a say in the policies that affect them. As Jonathan Boston notes, even with strong policy instruments like covenants or statutes meant to reduce moral hazard and provide certainty, there is nothing preventing groups from organising to alter the rules in their favour (and property owners are especially well placed to do that successfully) (Boston, 2019). Just as we will never be able to rely on the social contract perfectly ensuring that our interactions are fair and secure, so we will never be able to construct a perfectly just transition policy for climate-resilient coastal communities. We can, however, expect the state to act to reduce policy uncertainty while remaining responsive to changing democratic opinion about which values to emphasise in our decisions trading off among competing ideals.

With regard to compensation for climate-related losses, a policy aiming to maintain the market value of residential

property with a regime of compensation funded from general taxation (as recommended in Boston and Lawrence, 2017 and Boston, 2019) would resolve policy uncertainty without effecting transformative change: highly urbanised Aotearoa 2100 would remain a society of private homeowners, though those homes would be located in less risky locations. Alternative policies might target social and community wellbeing rather than residential market value in a compensatory regime, building climate-resilient communities that would serve renters and property owners alike. It is a matter for democratic decision making to select among these and other options; though, as we have already seen, business as usual is not among them.

A recent article surveying the global literature on implementation of pre-emptive managed retreat asks, 'What ... is the nature of the "social contract" between citizens and the state in the context of climate adaptation?' (Lawrence et al., 2020, p.67). From the perspective of just transition, the state must ensure, at a minimum, the policy certainty that allows New Zealanders to make decisions and take actions under conditions of security and fairness. How we transition from the present policy status quo of uncertainty and injustice in managing both risky new coastal development and existing at-risk communities will say a lot about what kind of social contract obtains among the people, present and future, of Aotearoa New Zealand.

- 1 What is more, successful climate action entails addressing interlocking sustainability crises simultaneously, including especially the biodiversity crisis. It is increasingly well recognised that nature-based solutions are among the most effective responses to excess emissions, as well as the ones that carry the most substantial co-benefits. See IPBES-IPCC, 2021.
- 2 For a more detailed explanation of the challenges associated with risky new development and at-risk existing development, see Ellis, 2018. For a detailed technical description of the distinction and its consequences for planning, see Bell et al., 2017. Here we ignore another category relevant to Bell et al. of risky new development that is not intended to be habitable, or is short-lived, or otherwise of low value and consequence.

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Julie MacArthur and Cathrine Dyer

Transition Inequity

gendered employment trends in New Zealand's energy industries

Abstract:

Energy industries are experiencing a period of rapid and sustained change as nations seek to meet climate policy targets. In Aotearoa New Zealand a gap in both information about and attention to the gendered dimensions of the proposed low-emissions transition has emerged. This silence has implications for the distributive impacts of any transition. We present data illustrating the sub-sector variation in women's employment, pay, tenure and executive representation in both the electricity and fossil fuel industries. Recommendations are presented for more sustained policy attention to how an energy transition, given current gendered employment trends, is unlikely to be inclusive or just.

Keywords just transition, Aotearoa New Zealand, gender policy, energy transition, occupational segregation

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Energy industries are in the midst of a period of rapid change, one crucial to meeting climate policy targets worldwide. Investment in new technologies and divestment of others are reshaping energy economies. Electrification, e-mobility, decentralisation and decarbonisation are transforming the industrial landscape. Energy activities are also incredibly diverse, spanning the extraction, transformation, processing, distribution and retailing of renewable and non-renewable sources of heat and power (MacArthur and Stephenson, forthcoming, 2022). A transition to low-carbon sources will be accompanied by significant employment-related effects along the energy supply chain, from those working on offshore oil rigs to petrol station attendants and solar panel installers. The International Renewable Energy Association estimates that the number of jobs in renewables globally could increase from 10.3 million in 2017 to nearly 29 million in 2050 (International Renewable Energy Association, 2019). Where and how these new jobs will be distributed is less certain.

As Aotearoa New Zealand looks towards new, more strategic investments that can provide low-carbon pathways as well as industrial innovation, a gap in both information about and attention to the gendered dimensions of a transition has emerged. In this article we highlight the significance of gender segregation in energy industries, the large gender gaps that exist in energy employment in sub-sectors and over time in New Zealand, and the implications of these silences and gaps for a just transition in Aotearoa.

A number of international initiatives are now seeking to address energy sector gender gaps, including the International Energy Agency's gender diversity initiative, and the Clean Energy Ministerial led by Canada ...

Policymakers in Aotearoa New Zealand have signalled in recent years an interest in ensuring that a low-carbon transition is also a just transition. Policy proposals often include references to low-carbon jobs, 'good' jobs, and equitable distribution of costs and benefits. In the 'Just transition to a low emissions economy: strategic discussion' Cabinet paper, for example, we find the following statement:

to achieve a successful *and* just transition, we also need to understand the nature of the transition pathways ahead and how the impacts might be distributed across regions, sectors or communities so that we can be informed and deliberate about how we manage impacts, and leverage opportunities, in an equitable and inclusive way. (Woods, 2018, para 10)

While attention is turning to specific regions, sectors and communities, intergenerational equity, and the crucial leadership of Māori as part of a 'tika transition' (Bargh, 2019), there is almost

no mention of gender equity or use of a gender analytical lens in recent New Zealand climate and energy policy. This is a significant and problematic gap which needs to be addressed urgently, as the current focus on 'shovel ready' jobs in heavily masculinised industries magnifies already existing equity challenges.

The fact remains that progress in gender equality that occurred in the 1970s has slowed or stalled in many countries since the 1990s (England, Levine and Mishel, 2020; World Bank, 2011). According to the

World Economic Forum's *Global Gender Gap Report 2021*, New Zealand ranks highly (fourth below Iceland, Finland and Norway).¹ However, the Covid-19 pandemic and subsequent industrial disruption point to a jobs future set to increase rather than shrink gender gaps (World Economic Forum, 2021, 2020). The magnitude of this change will depend on country-level characteristics such as industrial composition, labour force participation and occupational segregation. In Aotearoa New Zealand recent analysis shows that Covid-related unemployment was highly feminised, with two thirds of lay-offs significantly concentrated in industries with high participation of women: hospitality and tourism, service and care, all lower-paid, part-time and contract occupations (Stats NZ, 2020). A growing number of women have dropped out of the labour force completely.

Gendered employment gaps: significance and policy attention

Energy is one of the most gender-segregated industries on the planet.

According to the International Energy Agency, 'closing this gap is not only a moral and social imperative, but makes good sense for business, as studies show that diverse organisations perform better' (International Energy Agency, 2017, p.4). Despite higher levels of education and workplace participation, stubborn inequities persist in women's pay, advancement and representation. Vertical and horizontal gender segregation is also common and persistent, which has led to women's concentration in lower-paid health, educational and social service care work. This is the case even in the countries with strong social safety nets which lead in many gender equity measures (Nordic Council of Ministers, 2019).

Progress to desegregate occupations has slowed significantly from strides made in the 1970s and 80s. This segregation is particularly pronounced in 'jobs of the future' industries, such as engineering, data and artificial intelligence (AI) and product development (World Economic Forum, 2020). Women make up 48% of the paid workforce globally but just 22% in the oil and gas industries and 32% in renewables (International Renewable Energy Association, 2019). This imbalance is significant in terms of pay disparities between men and women in the economy, especially given that average salaries in energy industry jobs are relatively high (NZ\$98,000 in 2018). Moreover, women's employment in these industries is typically concentrated in lower-paid, non-technical, administrative and public relations positions (Pearl-Martinez, 2015).

This begs the question: how does New Zealand compare to this global picture? Very little information is publicly available on gender and energy sector employment in Aotearoa New Zealand, so we used customised labour force data² and company reports to assess the situation, finding large employment, pay, leadership and job-tenure gaps between different energy sub-sectors.

A number of international initiatives are now seeking to address energy sector gender gaps, including the International Energy Agency's gender diversity initiative, and the Clean Energy Ministerial led by Canada (International Energy Agency, 2017; Clean Energy Ministerial, 2021). The

latter includes the goal of improving the gender data collection in energy industries for benchmarking, career development and mentorship, and awards and recognition, as well as dialogue. It has 14 current signatories, including the European Commission, Australia, the United States, Canada, the UK and Sweden (Clean Energy Ministerial, 2021). New Zealand is absent from the list, which is notable because in the past decade three of six (50%) of New Zealand’s energy ministers have been women, a rate that is higher than in many other countries.³

Women’s representation in policy leadership in New Zealand has yet to translate into attention to gender in its transition and Covid recovery policies. For example, our survey of recent policy documents, reports and strategies finds that the words ‘gender’, ‘women’ and ‘inclusive’ are almost wholly absent. These include the Climate Change Response (Zero Carbon) Amendment Act 2019, the Resource Management Amendment Act 2020, the New Zealand Energy Efficiency and Conservation Strategy 2017–2022 (Ministry of Business, Innovation and Employment, 2017), the Cabinet paper ‘Just transition to a low emissions economy: strategic discussion’ (Woods, 2018) and *Tapuae Roa and Taranaki 2050 Progress Update* (Ngā Kaiwhakarete o Taranaki, 2021) (the latter two produced in conjunction with the Ministry of Business, Innovation and Employment’s Just Transitions Unit). One exception can be found in the Climate Change Commission’s *Ināia Tonu Nei: a low emissions future for Aotearoa* report, where it mentions the male dominance in energy industries and negative effects of large-scale economic disruptions on women’s employment historically (Climate Change Commission, 2021).

Gender and energy sector employment in New Zealand

The available public data on energy industries in New Zealand often combines electricity, water and waste utilities, obscuring large differences in specific areas of energy employment. We obtained the sub-industry data from Stats NZ LEED (linked employer–employee data) and the Household Labour Force Survey for

Figure 1: Total electricity employment by gender – Tax Years 2000 – 2018

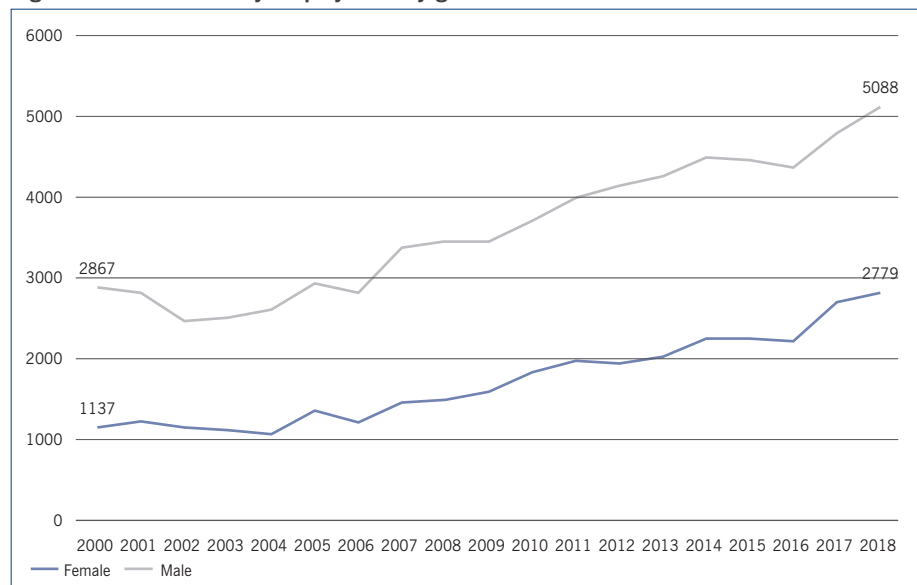
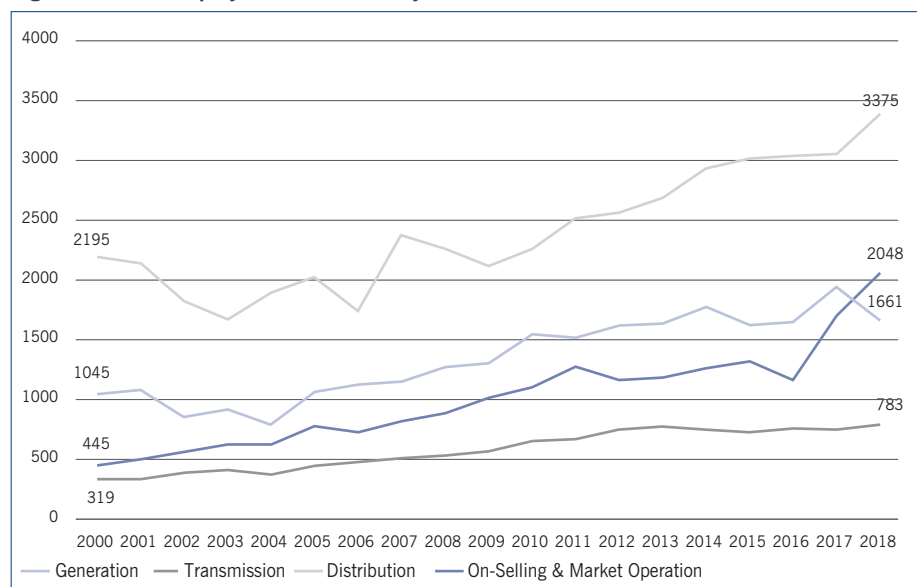


Figure 2: Total employment in electricity 2000–18



men and women over time based on total employment, job tenure and new hires (accessions). This data was broken down by distinct activities in electricity supply (generation, transmission, distribution and on-selling/market operation) and the mining and petroleum sectors (coal mining, oil and gas extraction, exploration and mining support services, petroleum and coal product manufacturing and fuel retailing). We examined whether international trends are replicated in Aotearoa New Zealand, and, if so, what implications this has for just transitions. This data extends to December 2018, so does not include the impacts of recent policy changes, such as the Zero Carbon Act, the ban on new offshore oil and

gas exploration, or other more recent developments.

Diversity is certainly not limited to women and gendered employment patterns, but statistics at the industry level on either ethnicity or gender non-binary people are not available at this time. Moving forward, collecting this data is vital, because an inclusive and resilient energy transition requires much broader change than the data below shows. Moreover, the energy industry’s gender problem extends far beyond employment and leadership to cultures of energy consumption, and to gendered issues of fuel and energy poverty beyond the scope of this piece (MacArthur and Stephenson, 2022).

Figure 3: Electricity sector accessions (new hires) 2000–18

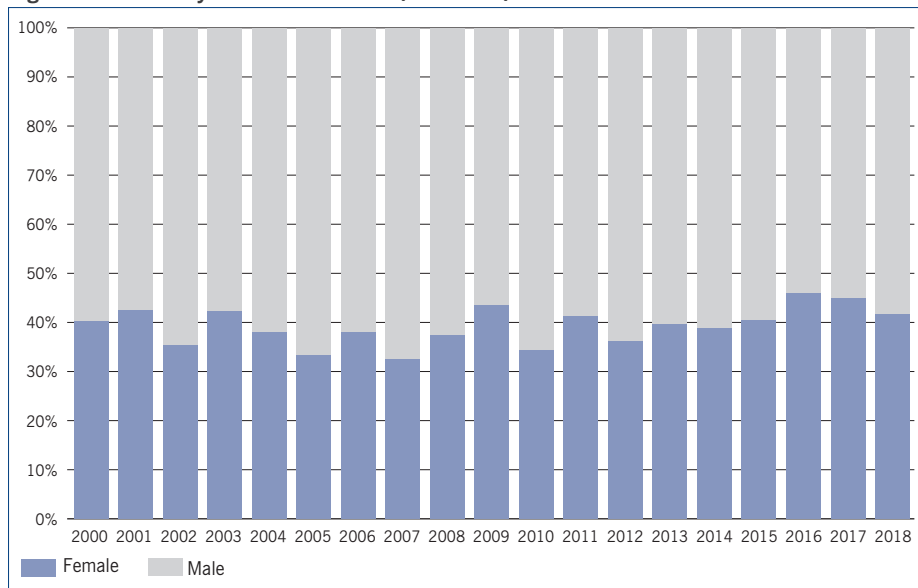
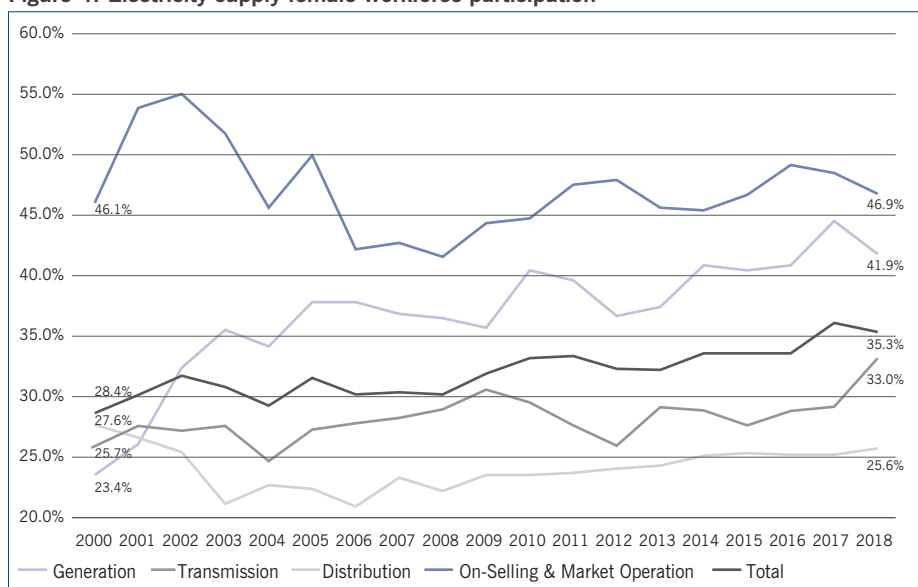


Figure 4: Electricity supply female workforce participation



Electricity

The electricity workforce in Aotearoa New Zealand is an area of long-term employment growth but is male-dominated, with nearly twice as many men as women in the sector (Figure 1).

Since 2000 employment has increased significantly in distribution companies, with a sharp increase since 2016 doubling the number of employees in electricity market operation and onselling (Figure 2). Employees in distribution companies make up the lion's share (43%) of employment, while in 2018 for the first time retailing and market operation employees became the second-largest proportion of the workforce.

One factor perpetuating the employment gender gap is the fact that the proportion of women hired in New

Zealand's electricity sector has not changed significantly in two decades – at 40% in 2000 and 42% in 2018 (Figure 3).

Large, albeit varied, pay gaps exist in electricity industries. In 2018 men in electricity generation and retailing made 74% and 73% more than their female counterparts respectively, with these gaps increasing almost 10% since 2010. The pay gap in distribution is lower at 37% and has been declining since 2000.

Significant differences in the share of female employees exist at the sub-sector level. The distribution sector has the highest share of overall employment in electricity (Figure 2), but the smallest proportion of women (25.6% – Figure 4), while onselling and market operation has the second-highest overall employment

(Figure 2) but the highest proportion of women (47% – Figure 4).

The data also showed that women are much more likely to stay less than two years in their electricity sector jobs, and men much more likely to stay eight years or more. These patterns have remained steady over the past decade. This gendered job tenure pattern is most pronounced in electricity generation and least pronounced in retail and onselling. Electricity generation is the sub-sector that has closed the job tenure gap most in the past 20 years, but this remains the largest gap. Electricity retailing jobs are for much shorter durations than those in other parts of the industry. The longest average tenure for both men and women is in power distribution, a part of the sector dominated by community and consumer trusts.

Fossil fuels

Overall employment is declining in fossil fuel-related industries – coal mining, oil and gas extraction, exploration and mining support services, petroleum and coal product manufacturing and fuel retailing – with fuel retailing making up the lion's share of the decline.

Fossil fuel industry employment also continues to be male dominated, though the gap overall has closed in more recent years. The proportion of women increased from 30% in 2000 to 38% in 2018, a larger shift than observed in electricity.

This narrowing in the gender gap for fossil fuels overall is largely due to the decline in the large fuel retailing sub-sector (Figure 5), which makes up nearly 70% of all fossil fuel-related employment in Aotearoa. The job losses in retailing (gas stations) came almost exclusively from male employees in the sub-sector. The number of women has held remarkably steady over the past 20 years, from 3,610 in 2000 to 3,695 in 2018 (Figure 7). This has led to almost gender employment parity in the fuel retailing sub-sector (from 33% in 2000 to 46% – Figure 7).

When fuel retailing is removed from the numbers, the gender balance looks much more like electricity, with the share of women largely unchanged in 20 years (from 20% to 22%). This also puts the share of women in line with international figures for fossil fuel industries

(International Renewable Energy Association, 2019).

Job tenure patterns in fossil fuel jobs are similar to those in electricity. Men working in fossil fuel industries are nearly twice as likely to stay in their jobs for eight years or more. The 2018 salary gaps in fossil fuels were higher than in electricity: highest in oil and gas extraction at 86% and lowest in fuel retailing at 25%.

Executive positions and leadership

In addition to general employment trends presented above, a further data gap exists in reporting of gendered leadership positions in New Zealand energy industries (vertical stratification). We know that leadership diversity matters to decision making and performance based on extensive international literature on the causes and consequences of glass ceilings (World Economic Forum, 2021; International Energy Agency, 2017, Hunt, Layton and Prince, 2015; Adams and Funk, 2011). It is also important for career progression, and imbalances in senior leadership translate into overall pay gap differentials for the workforce overall.

In order to address this gap in New Zealand, we analysed published online data and annual company reports in both the electricity and fossil fuel sub-sectors.⁴ We found that at the corporate leadership level (executive teams and boards), women are represented approximately the same proportions as in the New Zealand top 100 survey: 25% in both the electricity and fossil fuel industries, with the exception of electricity distribution at 15%. Differences emerge at the sub-sector level, though. Of 62 electricity sector companies with published board memberships, ten had no women. All of these were distribution companies. We found similar lack of representation in fossil fuel investment, coal mining and wholesale retail boards. Nineteen of the 62 electricity companies did not publish board or executive memberships online or in their annual reports, demonstrating a lack of attention to the importance of gender equity in leadership and the sector more broadly. In fossil fuel industries, women's share of board seats was highest in gas distribution at 44% and lowest in oil and gas extraction at 20%.

Figure 5: Employment in fossil fuel sub-sectors 2000–18

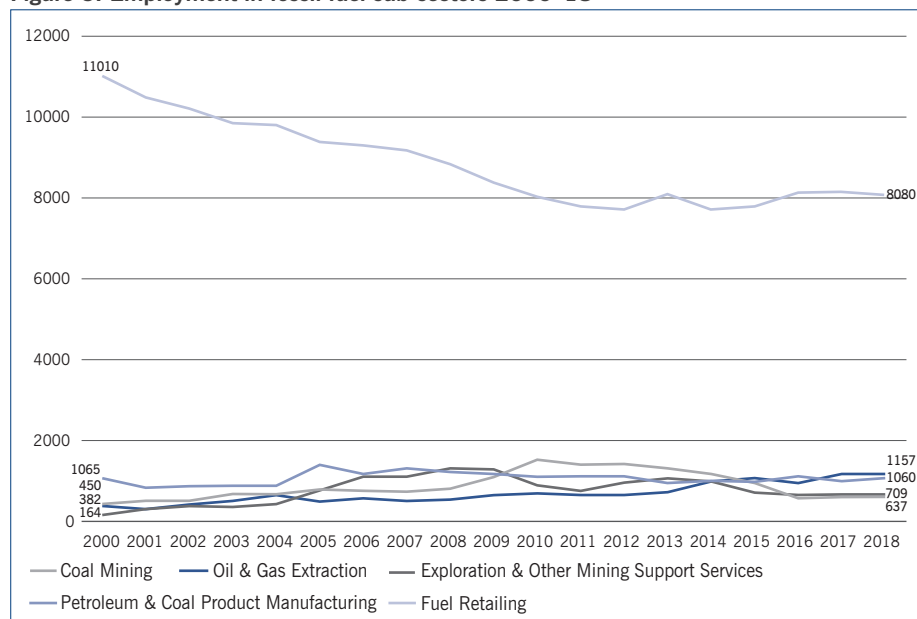


Figure 6: Employment – fossil fuels

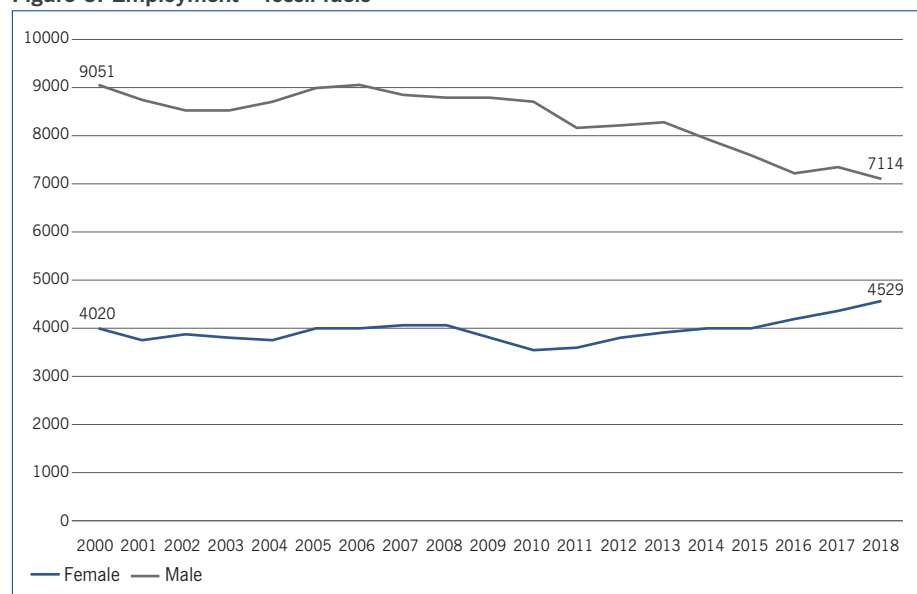
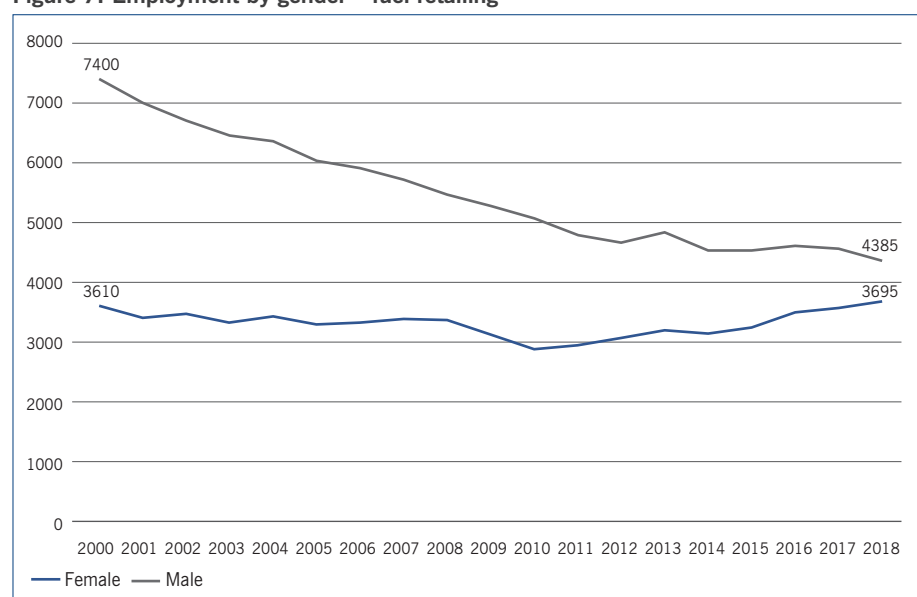


Figure 7: Employment by gender – fuel retailing



Implications for just transitions

Policymakers and those interested in energy transitions in Aotearoa New Zealand will need to understand where the challenges and opportunities are in order to bridge the gap that has persisted for decades now and make the energy sector a more inclusive one. The sub-sector employment data presented here provides insights for future research and for policymakers. There is tremendous potential in energy transition policies to create new employment, bring in innovative and diverse actors and

food retail elements of the business. These are some of the least skilled and lowest paid jobs in the energy sector, so it is significant that they also have the highest share of female employees.

Large differences in job tenure exist between men and women in some sub-sectors (power generation, petroleum and coal manufacturing, exploration and mining support), and far less so in others (electricity retailing and onselling, fuel retailing). To plug job tenure gaps we need to find out much more about why women

and beyond that investigate the norms and practices that result in particular imbalances.

The sub-sector data also shows that the largest sub-sector in electricity (distribution) and largest in fossil fuels (retailing) have far-reaching, albeit opposite, effects on the overall gender composition of the energy sector. The overall sector figures, showing little change, mask large shifts in employment, job tenure and gender composition in sub-sectors. Emphasis is often placed on increasing the training and participation of women in STEM, but increasing technical training for women is just one piece of a much broader challenge of systemic change. Once women are employed, why don't they stay? What kinds of employees and skills are necessary in order to transform how our societies produce and consume energy? Why are non-technical yet highly skilled positions paid relatively poorly?

The negative gender impacts of conventional infrastructure policy and gender-blind transitions policy can also be attributed to a range of factors which include: the impact of care work on employment; persistent stereotypes about women's capacities and competencies; low pay in feminised professions; and discrimination against women in masculinised ones (World Economic Forum, 2021; International Renewable Energy Association, 2019). Various networks of women in energy industries have developed in recent years, attempting to raise the profile of the lack of diversity and its implications for the sector, as well as provide mentoring and strategic support. This push for diversity has been met with resistance from some quarters, based on sexist assumptions about women's 'natural' inclinations and capabilities (see comments section in Greaves, 2019).

Conclusion

Energy systems globally are in the midst of significant restructuring, in response to pressures to decarbonise, decentralise, diversify and decolonise (Newell, 2021). It is essential that recovery and transition policies are gender positive rather than regressive (World Economic Forum, 2021, p.6). In order to achieve this, occupational

Where investments are directed to or diverted from, who makes decisions, and how and why they do so all have significant and differentiated impacts on those who experience this world as male, compared to those who experience it as female.

expand the benefits of job growth. But there is also growing concern that current policies will merely magnify the stark underrepresentation of women (Baruah, 2017). Women in both the electricity and fossil fuel industries are significantly underrepresented, and, importantly, the share of women being hired for new roles has remained largely unchanged in more than two decades. Large pay gaps persist, consistent with the international literature demonstrating that women are stalled and in some areas reversing their share of 'jobs of the future'.

The number of jobs in electricity and renewables in Aotearoa New Zealand is increasing while employment in fossil fuel industries is decreasing. The decreases have been particularly pronounced in fuel retailing from gas stations between 2000 and 2012, where women's employment has remained steady but men's has decreased. This is likely due to a range of changes in gas stations, from automation of pumps to an expansion of the convenience store and

are leaving their jobs so much earlier than men. International evidence suggests that these differences are due to a range of factors, which include hostile work cultures, lack of family-supportive leave and re-entry policies, workplace harassment and discrimination, lack of representation in STEM training, and lack of representation and role models in leadership positions (International Energy Agency, 2017; International Renewable Energy Association, 2019).

The lack of reporting from some energy companies on gender composition points to the importance of gender auditing exercises directed at the national level, as we saw with the United Kingdom's mandatory gender pay gap reporting in 2018 (Government Equalities Office, 2019). This exercise allows for in-depth data collection, and comparisons between industries not just of overall employment but of specific discrepancies in pay and in job rank. It forces firms to, at a minimum, take stock of their employment practices,

segregation needs to be addressed, as does reskilling, bias training and sustained policy attention to the scarring effect that inadequate care support has on women's employment prospects and trajectories. Transition pathways in Aotearoa New Zealand that fund 'shovel ready' projects and incumbent industries without strong social and industrial policy changes are likely to have regressive impacts on women.

This research has revealed the extent to which women in both the electricity and fossil fuel industries are currently underrepresented, and, importantly, that the share of women hired for new roles has remained largely unchanged in more than two decades. New Zealand's energy industries are both racially and gender segregated, and the sub-sectors where gaps are largest are also where change has been most resisted. This analysis opens up opportunities for change. Local electricity distribution companies are one important area for focus, as we move towards an electrified future with more distributed generation. Women's share of jobs in them has been consistently low and these jobs are also where the longest job tenures can be found. The largest job losses to date (in fossil fuel retailing) have equity implications as well as gender ones, as fuel retailing is the sub-sector where Māori

employees are most represented, average pay is lowest, and job losses were heavily masculinised. This leaves women nearly at parity (in total job numbers), but the sheer size of this sector inflates the overall gendered employment breakdown, highlighting the importance of both sub-sector and demographic data.

Infrastructure policy is gender policy, whether this is explicit in the design or not. Where investments are directed to or diverted from, who makes decisions, and how and why they do so all have significant and differentiated impacts on those who experience this world as male, compared to those who experience it as female. For example, women benefit disproportionately from energy efficiency and public housing investments, since they are overrepresented in low-income cohorts and use of public housing services. Energy policy, and just transitions policies more broadly, require an informed gender lens if we are going to navigate the intersecting challenges of climate transitions and post-Covid reconstruction. Far more work in New Zealand is required in the near term. Mandatory gender reporting and auditing exercises at a national level would help plug data gaps. A gendered employment lens needs to be added to infrastructural and climate transition policies in Aotearoa New

Zealand. This would include increased attention to reskilling, family-support policies, the climate benefits of investment in feminised care industries (childcare, health and education), and existing hostile work cultures. Proactive planning and implementation is required so that the gendered effects of this policy gap can be addressed before they grow even larger. Ticking the 'no gender implications' box may save time in the short term, but will have longstanding impacts on how just and effective low-carbon transitions will ultimately be.

- 1 The pay gap sits at 71.9% in 2021 and the income gap 63.7% (World Economic Forum, 2021, p.33). The majority of these gaps remain unexplained by educational attainment, and the gaps increase as an employee moves up the wage distribution (Pacheco, Li and Cochrane, 2017).
- 2 We obtained the sub-industry data from Statistics New Zealand for men and women over time based on total employment, job tenure and new hires. This data was broken down by distinct activities in electricity supply (generation, transmission, distribution and onselling/market operation) and also the mining and petroleum sectors (coal mining, oil and gas extraction, exploration and mining support services, petroleum and coal product manufacturing, and fuel retailing).
- 3 No women have headed the transport portfolio in the past decade, while one of four environment ministers since 2010 have been women.
- 4 See also MacArthur and Dumo, 2018 for an earlier version of this work.

Acknowledgements

The authors would like to thank Claudia Gonnelli for her research assistance for this article.

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Taking a Just Transition Approach to Practical Decision Making

Abstract

A just transition that achieves decent work for all, social inclusion and poverty eradication is unlikely to occur without active guidance. Much of the focus for making a just transition a reality is at a more abstract policy scale, and a gap exists for concrete guidance in achieving a just transition in a practical sense. This article provides two frameworks – at a project scale, and at an organisational scale – for assessing alignment with a just transition. It uses the example of energy to illustrate both the scale of the challenge being faced, and how such frameworks could be applied in practice.

Keywords just transition, climate change, energy, decision making

One analogy for a just transition is that of a growing child. Nothing can halt a child changing and developing as they age, the same as transitions to new technology and new

ways of working inevitably occur over time in response to policy, community, economic or other drivers. But, just as a child needs support and guidance from whānau and kaiako to develop to

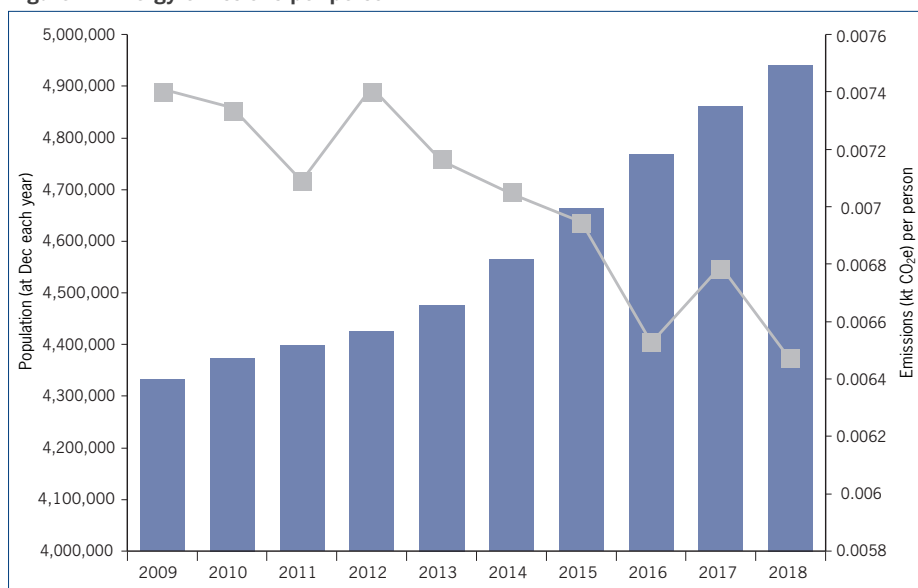
their utmost potential, so too does a *just* transition need active attention and consideration to become a reality.

So, if a just transition will not happen all by itself, what needs to be done, and who needs to do it, to actively shepherd in the type of change that will improve peoples' lives while at the same time achieving New Zealand's climate goals?

The 'just transition' is increasingly understood in the broad sense as a guiding principle for the wide and fair distribution of costs and benefits of a transition to sustainability (UNEP, 2008), or, more fundamentally, to guide a 're-valuation of the relationship between people, work and the planet' (New Zealand Council of Trade Unions, 2017, p.4). In stark contrast, in both policy and practice, many interpretations of a just transition are narrower in scope and appear to largely focus on how to manage the replacement of old-technology jobs with new-technology jobs (Dominish et al., 2019; New Zealand Council of Trade Unions, 2017).

Here I argue that a just transition can and should achieve more than this. Rather than just replacing jobs, any investments

Figure 1: Energy emissions per person



Source: Ministry for the Environment, 2018; Stats NZ, 2021

in new technology and ways of working should, as per the International Labour Organization’s definition, contribute to the goals of decent work for all, social inclusion and the eradication of poverty (International Labour Organization, 2015). Furthermore, change processes should be inclusive and impacts and outcomes fair, taking into consideration distributional effects on different strata of society.¹

These may seem like aspirational, or, frankly, unachievable goals for individual projects or even individual organisations. This is understandable given that the just transition concept is a property of systems-level change, and a principle that can be generalised at the level of policy. And it is certainly true that no one change will, on its own, create a just transition in and of itself. But small changes can, cumulatively, create the type of future that we are all aiming for.

The core focus of this article is, therefore, to understand how a just transition could be made a reality in a practical sense. It looks at both a project-level and an organisational-level approach for assessing alignment with a just transition. The intent is to provide a possible way forward for organisations wrestling with the concept of how to achieve a just transition in practice. It also uses the example of energy to illustrate both the scale of the challenge we are facing, and how such frameworks could be applied in practice. Energy is relevant because the transition away from fossil fuels represents a complete upheaval

of life as we know it – for, as Zenghelis argues, ‘it is not too much to say that capitalism was founded on carbon’ (Zenghelis, 2016, p.173).

Energy and a just transition

A just transition aims to achieve emissions reductions while at the same time improving peoples’ lives through better work opportunities, conditions and outcomes. New Zealand has good reason to aspire to improvement in both areas. Looking at energy in particular, while per person energy emissions have decreased over the last decade (Figure 1), energy emissions still comprise over 40% of New Zealand’s total net emissions (Ministry for the Environment, 2018). And New Zealand is also a highly unequal country, with 70% of household wealth being held by just 20% of households (Statistics New Zealand, 2018). Therefore it comes as no surprise that, as the recent draft advice to the government from the Climate Change Commission noted, ‘transformational and lasting change across society and the economy’ is needed, not least in terms of decarbonising ‘how we produce and use energy’ (Climate Change Commission, 2021, pp.10, 15).

In the year to June 2021, New Zealand’s electricity generation was about 80% renewable electricity (slightly lower than previous highs of nearly 85% due to a relatively dry previous 12 months, meaning more reliance on fossil generation and less hydropower generation). In terms of total

renewable energy across New Zealand, we sit at about 40%. This measure of total renewable energy, as opposed to electricity, is important, because it gives a greater sense of all the energy used across the economy and the scale of the change that New Zealand is facing.²

The Climate Change Commission would like to see the government establish a target of 60% renewable energy by no later than 2035 (with the 100% renewable electricity target treated as aspirational and considered in the broader context of the overall energy system). Achieving such a target would see most light passenger vehicles coming into New Zealand by 2035 being electric, substantial changes in our buildings and how we move around urban areas, and the elimination of the use of coal (and near elimination of all other fossil fuel uses). Each one of these changes has a human face. There are diesel mechanics, gas fitters, and a myriad other people working in the broader energy ecosystem who will need help to retrain and prepare for a future based on very different technologies (Productivity Commission, 2020).

I contend that to achieve a just transition for energy, all those working in the energy sector have a responsibility to work towards a just transition. While the transition to a low-emissions future is ‘primarily policy-driven (because it is focused on meeting a pre-determined set of (scientifically-linked) policy actions and targets)’ (Productivity Commission, 2018, p.106), the business community and civil society also have a fundamental role to play in the implementation of abatement measures and the achievement of these targets. They need clear guidance on their investments and activities to achieve material change.

Better decision making

So, given the need for good guidance, how should a just transition be achieved in practice, and what are the roles and responsibilities of different economic and social actors in making it happen? To answer these questions, it is first necessary to recognise that there are multiple levels to the concept of a just transition. Most discussion is about change on a national or regional scale, although some information

is available at an organisational level. Table 1: Example definitions of a just transition at a national and an organisational level provides examples of some different definitions, focusing on just transition outcomes (rather than procedural justice elements, such as outlined in UNEP (2008)).

However, there is little practical guidance in terms of *how* organisations such as businesses could or should change their processes and practices in a more concrete way to achieve the goals of these lofty statements. For example, what exact questions does an energy sector company need to ask to achieve a 180-degree pivot in its business so that it can, in effect, turn around the proverbial supertanker and set course for a completely different future?

This gap has been recognised globally: Robins et al. state, the ‘just transition is a new agenda and a complex and challenging topic for investors and other stakeholders’ (Robins et al., 2018, p.7). But a significant degree of work is underway globally to address it. For example, the Climate Action 100+ Net-Zero Company Benchmark, which assesses the world’s largest corporate greenhouse gas emitters on their progress towards a net-zero future, has included an indicator on the just transition in its most recent set of disclosure indicators (Climate Action 100+, 2021).³ While the content of this indicator (that ‘the company considers the impacts from transitioning to a lower-carbon business model on its workers and communities’) is still in development and is not yet being assessed, it is encouraging to see that it is on the minds of some of the globe’s largest investors.

Another major gap is that, below these national- or organisational-level descriptions, practically no information or guidance exists about whether a specific *project* is likely to contribute to a just transition. This is in terms of both achieving a just transition outcome and making sure that the process of transition is also just.⁴

A framework for decision making

Project level

Better guidance is needed for taking practical steps towards achieving a just transition. Table 2: Elements of a just transition at a project level proposes

Table 1: Example definitions of a just transition at a national and an organisational level

National or regional just transition	Organisational just transition
‘An economy-wide process that produces the plans, policies and investments that lead to a future where all jobs are green and decent, greenhouse gas emissions are at net-zero, poverty is eradicated, and communities are thriving and resilient.’	‘An enterprise-wide process to plan and implement companies’ emissions reductions efforts, based on social dialogue between workers and their unions, and employers. This includes a company’s supply chains. The goal is to reduce emissions and increase resource productivity in a way that retains and improves employment, maximizes positive effects for workers and local communities, and allows the company to grasp the commercial opportunities of the low-carbon transition.’

Source: Just Transition Centre and the B Team, 2018, p.2.

Table 2: Elements of a just transition at a project level

Element
<p>Emissions reduction goal(s)</p> <ul style="list-style-type: none"> Project directly contributes towards emissions reduction goal(s) for sector or organisation. Project has measurable indicators of success for its contribution to the emissions reduction goal(s).
<p>Commercial opportunity</p> <ul style="list-style-type: none"> Project is directly aimed at capturing the commercial opportunities of low-emissions transition to help create new supply chains, markets etc. for low-emissions products or services.
<p>Gender</p> <ul style="list-style-type: none"> Project supports gender equality (e.g., employing women/LGBTQI+ in leadership positions, or leads to increased overall industry representation for women/LGBTQI+).
<p>Iwi and community involvement and benefits</p> <ul style="list-style-type: none"> Project involves local iwi and community in decision making around scope, aims, benefits, processes etc. (i.e., not just as a party to ‘consult’) and provides tangible benefits.⁵
<p>Poverty eradication</p> <ul style="list-style-type: none"> Project pays the living wage (at a minimum). Project creates jobs and is likely to employ low-income workers and upskill them for work in sunrise technologies. Project has measurable indicators of success that directly contribute towards organisational/sector plan for a just transition (e.g., worker upskilling, creation of decent jobs, equal opportunities for training/employment, investment in community economic diversification or renewal).
<p>Strategic fit</p> <ul style="list-style-type: none"> Project contributes to the overall sector/regional plan for a just transition (if a plan is available). Project contributes to organisational plan for a just transition (e.g., retraining in identified sunrise areas). Project is supported by organisation/worker/community representatives as a way to improve resource productivity while maximising positive social effects.
<p>Workers</p> <ul style="list-style-type: none"> Project employs existing workers, particularly those whose prior role is likely to be made redundant due to the low-emissions transition. Project participation supports worker upskilling (either on-the-job or in a more formal sense, e.g., micro-credentials).

a framework for better just transition decision making at a project level. This framework is designed to be incorporated into pre-engagement decision making (i.e., at the point at which projects are green-lit). Using the filter statements in Table 2, it is

possible to highlight those opportunities that are more likely to contribute towards a just transition. And, for those opportunities that do not score well under some or each of these elements, it enables a dialogue to be held with the organisation

Taking a Just Transition Approach to Practical Decision Making

Table 3: Organisational decision-making framework

Unaware	Aware	Building capacity	Integrated into decision making
Emissions reduction goal⁷			
Organisation is unaware of the need for individual organisations to have a science-based, individual emissions reduction goal(s).	Organisation is aware of the need for individual organisations to have a science-based, individual emissions reduction goal(s) but has not yet set one.	<p>Organisation is in the process of determining its emissions (scope 1, 2 and 3)⁸ to establish its emissions reduction goal(s).</p> <p>Organisation is benchmarking itself against comparator organisations to set its emissions reduction goal(s).</p>	<p>Organisation has set a science-based, individual emissions reduction goal(s) and this is/these are actively tracked and reported on to shareholders (and the public where relevant).</p> <p>Organisation actively benchmarks its performance on emissions reductions against comparator organisations.</p> <p>Organisation works with supply chains to reduce emissions as widely as possible</p>
Dialogue and engagement			
Organisation is unaware of the need for dialogue and engagement (e.g., with workers or worker representatives) about a just transition.	Organisation is aware of the need for dialogue and engagement about a just transition but does not yet have processes in place to do so (or has not yet included a just transition as a topic in existing engagement).	<p>Organisation has initiated dialogue and engagement with worker representatives (e.g., internal representatives or union representatives) about a just transition and how best it can reduce emissions and increase resource productivity while maximising positive effects for workers and local communities.</p> <p>Organisation is a member of networks where dialogue and engagement between workers/worker representatives, government, community organisations, iwi etc. can occur about a just transition.</p>	<p>Organisation actively involves worker representatives at the outset, and on a continuing and formal basis, in operational and strategic decision-making processes about a just transition.</p> <p>Organisation actively facilitates/participates in discussions of a just transition with network members (e.g., government, iwi etc.).</p> <p>Organisation includes discussion of/targets relating to a just transition in its supply chain contracts.</p> <p>Organisation has an enterprise-wide understanding of a just transition and how its activities will influence workers and the communities more broadly, with ongoing dialogue and engagement about a just transition enshrined in its formal processes.</p>
Taking responsibility			
Organisation is unaware of the need for a just transition/ does not recognise its role in creating a just transition.	Organisation is aware of the need for a just transition and accepts that it has a role in creating a just transition, but has not yet instituted just transition policies or processes.	<p>Organisation has staff actively responsible for ensuring worker upskilling and redeployment in respect to new climate-aligned projects or initiatives.</p> <p>Organisation is actively collating information on transition risk (both its contribution to transition risk, and the risk of transition on the organisation).</p>	<p>Organisation has an agreed vision of the future of its activities, publicly accessible and agreed to by workers (through dialogue and engagement, including with iwi).</p> <p>Organisation reports on transition risk to shareholders/the public and has active processes in place to mitigate transition risk.</p> <p>Organisation is actively planning for opportunities (e.g., commercial opportunities) in transitioning to a low-emissions future via a just transition.</p>
Iwi involvement			
Organisation is unaware of the need to involve iwi in planning for its future operations.	Organisation is aware of the need to involve iwi as it plans for its future operations but does not yet engage actively with iwi on a just transition specifically.	<p>Organisation has initiated dialogue with iwi about its role in a just transition and how iwi and the organisation could work together.</p> <p>Organisation has staff member(s) whose remit includes understanding how the organisation's current and future operations may influence iwi, and how iwi involvement may occur.</p>	<p>Organisation includes iwi at the outset in decision-making processes where current and future operations relating to a just transition influence iwi.</p> <p>Iwi involvement in the organisation's just transition decision making is on terms mutually agreed by iwi and the organisation and iwi involvement is adequately recompensed.</p> <p>Organisation actively learns from iwi involvement in decision-making processes and updates its processes as a result.</p>

Unaware	Aware	Building capacity	Integrated into decision making
Action			
Organisation is unaware of the need to advocate for and enact a just transition.	Organisation is aware of the need to advocate for and enact a just transition, but has not yet created a plan to do so.	<p>Organisation is developing/has developed its just transition plan, but has not yet enacted it.</p> <p>Organisation is assessing its contribution to social protection (e.g., paying the living wage, adequate contributions for retirement, full payment of all relevant taxes, etc.).</p>	<p>Organisation has a clear 'transition plan' for its shift from sunset technologies to sunrise technologies and how it is planning to ensure workers are redeployed. This plan is time-bound, complementary to the organisation's emissions reduction goal(s), measurable and organisation-wide.</p> <p>Organisation has a long-term training and upskilling plan developed in conjunction with worker, iwi and community representatives.</p> <p>Organisation regularly reports on its achievement of its transition plan and identifies areas needing further work (and takes action on them).</p> <p>Organisation regularly reports on its contribution to social protection and identifies areas needing further work (and takes action on them).</p>
Future focus			
Organisation does not understand the need to forecast (e.g., for worker skill needs or the effect of emissions reduction goal(s) on worker retention).	Organisation is aware of the need to forecast, but does not yet have processes in place to do so.	<p>Organisation has established data collection processes to aid in forecasting.</p> <p>Organisation has entered dialogue with local/regional training organisations about future skills requirements.</p>	<p>Organisation clearly articulates the implications of its emissions reduction goal(s) for future worker requirements to workers/worker representatives/the local community.</p> <p>Organisation actively works with training organisations about future skills requirements (e.g., apprenticeship schemes).</p> <p>Organisation advocates for government policies that support a just transition to help bring the future forward.</p>

in question about their activities, and how they could incorporate these elements into their projects in the future.

These elements can be approached in numerous ways. For example, consider the situation where a project team's personnel resourcing for an offshore renewable energy generation project is already confirmed, and in its current form it perpetuates existing biases.⁶ In order to improve gender representation, statements added to advertisements for any vacancies that explicitly support applications from women, or from people of any sexual identity or gender orientation, will help to reorient the project towards one that is more explicitly supportive of a just transition. Such efforts acknowledge that change may not be immediate, but that it must also be actively encouraged to occur.

Organisational level

Beyond this specific project level, there is also the potential for broader engagement at the organisational level on a just transition. The decision-making framework in Table 3: Organisational

decision-making framework highlights six elements that I suggest are particularly relevant for an organisation when aligning itself with the goal of a just transition. These are:

- emissions reduction goal(s);
- dialogue and engagement;
- taking responsibility;
- iwi and community involvement and benefits;
- action;
- future focus.

Each element is then divided into four groupings (unaware, aware, building capacity, integrated into decision making), with associated example indicator statements. For example, if an organisation is mostly falling into the left-hand side groupings (unaware or aware), it is unlikely to be currently prioritising a just transition in decision-making processes. However, as with current approaches towards investor engagement in achieving greater climate action, these indicator statements can serve as a starting point for further discussion, with the aim being for the organisation to move higher up the scale over time.

The intent of this framework is to encourage organisations to think about how their overall processes and practices are contributing towards a just transition and to incorporate these elements into strategic planning discussions and systems. It is not intended to replace the project-level decision-making framework, but to ensure that there is alignment between project decisions and the overarching goals and direction of the organisation.

Not all elements will be relevant to all organisations – this will be more relevant to energy companies with fossil fuel-related activities as opposed to, for example, some professional services companies. However, given approximately 90% of industries are exposed in some way to climate risk (BlackRock, 2020), raising the potential relevance of these elements in strategic planning discussions is recommended.

Conclusion

To make a just transition a reality, it must be actively encouraged as an organisational priority. The logic for prioritising a just transition in business

strategy and decision making is very similar to that of climate disclosure requirements more broadly: disclosure encourages change because it elevates the importance of the issues in question and directly relates them to strategic performance and risk. The above project-level and organisational-level decision-making frameworks are therefore akin to models in transition finance which aim to improve performance (rather than screen out projects or organisations that do not perform well on such metrics at the outset).

These frameworks also represent a significant shift in focus from so-called ‘business-as-usual’ activities, both for energy sector companies in particular, and for any other organisations as part of the wider economy. But, to allude to the (in) famous words of the shampoo commercial,

while change won’t happen overnight, it will happen. I hope that these frameworks I have proposed can inspire organisations to start to think about which small, but concrete, steps they may start with on their path towards helping to achieve a just transition for New Zealand.

- 1 A further element of a just transition is that of restorative justice: that is, making good the injustices of the past.
- 2 For example, the category of ‘energy’ includes things like fuels used in vehicles and sources of energy like geothermal and solar (the latter of which, aside from electricity generation, is also used directly for activities like space heating, timber and milk drying and horticulture).
- 3 Climate Action 100+ represents over 570 investors, responsible for over US\$54 trillion in assets.
- 4 It is important to acknowledge that debate exists over definitions of a just transition. Some consider that the term has been co-opted by governments and other powerful players and that many climate solutions (such as carbon capture and storage, and cap and trade systems) will deepen inequality. Such solutions are criticised for dispossessing marginalised people of land and resources, privatising public goods and services, and furthering the exploitation of workers (Transnational Institute, 2020). For example, given that New Zealand has an emissions trading scheme

and operates within a capitalist, largely free-market system, some would argue that any project that does not also seek to actively dismantle these systems should not be considered ‘just’. A 2018 report from the United Nations Research Institute for Sustainable Development maps approaches to just transitions and finds that there is a large range along a continuum from status quo approaches, through managerial and structural reform approaches, to transformative approaches. By mapping these various approaches, the aim is to allow people to ‘situate themselves, as well as other actors and initiatives, within the broader Just Transition landscape’ (UNSRID, 2018, p.11).

- 5 See also Bargh, 2019 for a much deeper examination of how te ao Māori can be interwoven with the just transition concept.
- 6 For example, in a 2015 snapshot, only 9% of engineers at management level with direct reports were female (IPENZ, 2015).
- 7 Having an emissions reduction goal does not necessarily mean the organisation is also aware of/prepared for a just transition. However, it is an important prerequisite: an organisation cannot be preparing for a just transition without also having an emissions reduction goal.
- 8 ‘Scope 1 covers direct emissions from owned or controlled sources. Scope 2 covers indirect emissions from the generation of purchased electricity, steam, heating and cooling consumed by the reporting company. Scope 3 includes all other indirect emissions that occur in a company’s value chain’ (Carbon Trust, 2021).

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Greg Severinsen

Oceans Reform in Aotearoa New Zealand a just transition?

Abstract

The concept of a ‘just transition’ has become strongly linked to climate change and the idea that the process of decarbonising society needs to be done in a way that is fair to all. However, it is equally relevant to other areas in which a transition is needed. This article explores what a just transition might mean for the reform of Aotearoa New Zealand’s oceans management system. It argues that the concepts of justice and fairness are a useful way not only to manage the *process* of change, but also to frame and justify why change is needed. Different conceptions of justice – distributional equity, environmental justice, intergenerational equity, ecological justice and procedural justice – are all important lenses to look through when asking the hard questions about what the future of our seas should look like.

Keywords oceans, marine, transition, environmental justice, distributional equity, intergenerational equity, ecological justice, reform

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Aotearoa New Zealand has jurisdiction over a very large marine domain, which is around 20 times the size of the country’s land area. The state of that environment was assessed in a joint report by the Ministry for the Environment and Statistics New Zealand (Ministry for the Environment and Statistics New Zealand, 2019). It describes a resource with many conflicting uses and priorities. Biodiversity is in decline. Land-based activities are polluting our oceans and shorelines. Pest species are an ever-present threat. Climate change is affecting our seas and what can thrive in them. And there are questions about how Aotearoa New Zealand makes the best use of scarce and contested marine resources. The system through which the marine area is managed – and the human activities that have an impact on it – is not producing optimal outcomes.

There is a clear need for change, although it is by no means clear what exactly that should look like. To assist with conceptualising options for change, the Environmental Defence Society is currently

undertaking a project on oceans system reform, using the same general framework as our resource management reform framework (Severinsen, 2019, 2020; Severinsen and Peart, 2018), which was a key motivator and input into the Randerson Report and the government's subsequent reform programme (Ministry for the Environment Review Panel, 2020). Our oceans project is looking from first principles at what options are available for whole-of-system reform – from norms, to tools, to legislative design and institutional settings. A report is due at the end of 2021, and readers are encouraged to engage with it.¹

Irrespective of what options are chosen by government, change cannot happen instantly. It involves pathways between the system that exists now and a system for the future. The process of change needs to be fair and just. These terms – fairness and justice – are not always easy to pin down and can be defined differently depending on one's perspective. Four different lenses are looked at here: distributional equity, environmental justice, intergenerational equity and ecological justice.

The purpose of this article is to pose some key questions that will need to be answered during a transition to something new. It is a think piece; the idea is to highlight some questions that are not widely talked about in the context of a just transition – in the marine context rather than climate change – and to encourage people to think in a blue skies way about oceans reform. Most of all, oceans reform needs to be considered as an integrated system rather than a series of legislative silos (fisheries, aquaculture, marine protected areas, the Resource Management Act 1991 (RMA)) to be tinkered with. The concept of transition transcends legislative, sectoral and spatial boundaries.

The need for transition

There is a clear need to do things differently in our oceans. Not only does environmental reporting paint a grim picture of the outcomes happening at the moment; it also acknowledges that for many things policymakers simply do not know or cannot be sure about the extent of the problems (Ministry for the Environment and Statistics New Zealand, 2019).

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On top of that, the system by which human interaction with the marine environment is managed has problems of its own. It has failed to prevent poor environmental outcomes – that is its obvious shortcoming – but it is also fragmented, complex, inaccessible, riddled with gaps and inconsistencies, defined by conflict, and outdated when it comes to its underpinning norms (including the principles of te Tiriti o Waitangi). It is also arguably unfair for those using it and those with rights and privileges created under it. Outcomes must change, but so too must the system that delivers them.

Of course, most discussion about a 'just transition' still occurs in the context of climate change. That generally focuses on how overall emissions reduction targets are met in a way that is equitable. It is about who does what to achieve our national, and ultimately global, imperative to stop global warming. In the climate context, Aotearoa

New Zealand is well down the track in some ways. This is because there is a strong international framing under the United Nations Framework Convention on Climate Change and the Paris Agreement, with a fairly specific outcome sought (to keep the global average temperature well below 2°C above pre-industrial levels, while pursuing efforts to limit the temperature increase to 1.5°C) and a nationally determined contribution set for New Zealand (to reduce greenhouse gas emissions by 30% below 2005 levels by 2030) (Ministry for the Environment, 2018). Dare we say it, the normative basis for change – what is being aimed for and why – is now reasonably clear for the climate. Getting there is the hard part.

In the context of our oceans, things are different. Perhaps this is why New Zealanders tend not to be talking about a just transition; to think about a change process that is fair it is necessary first to accept that there is an actual need for some transition to occur, and have a common appreciation of what the end point of a transition should be. The conversation about how to get there is important to start now, but it has yet to be forced in the same way it has been for climate change because there is not yet a clear consensus about where we are heading.

A 'just' transition: process or outcome?

It is important that a transition for oceans management should not be conditional on it being just. All too often this is the framing that is being used: 'If people cannot agree on what is just, we simply put off the change until agreement can be reached.' Language matters here. The reality is that change needs to be non-negotiable, and only *within* those constraints can policymakers consider what is fairest. Unfairness is not an excuse for inaction. This has played out in the climate change context for many years as sectors fight to be excluded from emissions restrictions, and we cannot fall into the same trap with oceans.

In that light, it is worth pondering this: it is not only a transition *process* that needs to be just (e.g., who gives up what to achieve society's goals, and do they receive some form of compensation for doing so), but also the transition itself – the end point

of where society is trying to get to. The need for change – including environmental protections – is about justice, not some arbitrary imposition of government power or the product of ‘green’ interest groups. This reflects a distinction that some commentators have made between ‘ideal’ justice (which, through changing circumstances, ‘often gives us reason to change laws, practices and conventions quite radically, thereby creating new entitlements and expectations’) and ‘conservative’ justice (‘it is a matter of justice to respect people’s rights under existing law or moral rules, or more generally to fulfil the legitimate expectations they have acquired as a result of past practice’) (Stanford Encyclopedia of Philosophy, 2017). A useful way to reconcile these two things may be this: the goals society has can legitimately push towards its constantly shifting conception of ‘ideal’ justice, but the mechanism for *getting* there (a just transition) can focus instead on ‘conservative’ justice – ameliorating impacts on those benefiting from the status quo.

Another way to put this is that the alternative to a meaningful transition, whether it is just or not, is an ‘unjust stasis’. This is readily apparent in the context of climate change: if the rest of the world does nothing, it is grossly unfair for (1) low-lying Pacific island states which will be flooded and which have contributed little to the problem; (2) those of lower socio-economic status who will be more vulnerable to the impacts of climate change; and (3) those who have enjoyed relatively little financial benefit from the historical emission of greenhouse gases.

In the marine context, the need for some form of change can also be justified with reference to what is just, although it is not quite as clear-cut as with climate change. Careful thought needs to be given to whether a number of transitions are just, because goals are largely undefined and multifaceted, and could look quite different depending on one’s perspective on justice. There are a number of ways to look at what outcomes would be fair or just.

Distributional equity

First, policymakers need to consider intragenerational equity, or distributional

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equity, when considering if a transition to something new is just for oceans. The question is not only about who should *give up* what, and in what measure, to reach a target for a ‘public’ good like environmental health (e.g., whether all or only some fishers should be excluded from new marine protected areas). It is also about whether the *benefits* of using resources should themselves be consciously redistributed. For example, as a society are we wanting to consciously transition towards a redistribution of rights to fish? Is *that* a just transition? It is an issue that is less apparent in the climate context, but plays out in other contexts, such as freshwater, as well.

From a te Tiriti perspective, there is already full and final settlement of Māori commercial fishing rights through the quota management system, and customary take is also protected outside that framework. The former represents redress for past injustice – a breach of te Tiriti. This could be described as restorative, reparative or corrective justice – seeking to right a past wrong. But there are many other questions about redistribution of rights when looking

through a lens of distributional equity. For example, is it fair that recreational fishing allowances are made before commercial ones, or that the relative proportion of such rights is left unclear in legislation and at the discretion of the minister? Should there be stronger non-aggregation rules for quota holding, meaning rights are distributed more widely across society? Should quota holders be required to do the actual harvesting themselves, linking rights holders with operators to reduce the disparity in income that has arisen between investors and actual fishers?

Even more fundamentally, should existing rights be ‘wound back’ (e.g., buy-back of some or all quota by the Crown) and reallocated/leased based not only on the ability to pay market value (as under the quota management system), but also on environmental factors (e.g., who would use gear that has the least benthic impacts or generate the least by-catch)? Should that extend to socio-economic factors too (e.g., who would best support local communities, e.g. by landing or processing catch locally)? Who should get to decide such things, and what would the weighting of the various considerations be? Moreover, does the historical context matter, in that it was – at least from some perspectives – unfair that quota rights were essentially given away for free to some operators (owners of commercial fishing vessels) while others (part-time fishers and deckhands) were excluded?

Questions about distributional equity abound in the context of management of a commons like the oceans, and they are not limited to the fisheries context. Is it fair, for instance, that the allocation of coastal space is still largely done on a reactive, first in, first served basis? If not, who should receive these ‘rights’, and on what basis (and for what activities)? Should the market decide, or should that be the job of a well-intentioned public authority? Should communities and their representatives get a say? And should such rights be given away for free (on a cost-recovery basis), or should there be a return to the public and Māori (by imposing a resource rental or koha)?

Furthermore, is it fair that new aquaculture rights are, essentially, dependent on them not having an undue

adverse effect on wild fishing interests? And is it fair that, albeit in a fairly unconscious fashion, the interests of some fishers, aquaculture proponents and recreationalists are effectively subservient to the 'rights' of landowners who discharge nutrients and sediments into harbours, impacting on the productivity of the marine environment? And finally, is it fair that the financial benefits of harvesting wild fish – a common resource – accrue to quota holders without a portion being returned to the public through a tax or resource rental? (On a deeper level, does society still even regard fish as a 'common' resource of New Zealanders, or is it rather a 'shared' resource between commercial, customary and recreational fishers?)

These questions are complex and value-based. The point is that only once one determines *whether* the end point of a transition is fair – whether it should be pursued at all – can one think about *how* it is done in a fair way (e.g., through compensation for lost rights, partial buy-back of quota, the establishment of a tendering process for new fishing rights/permits, and so forth). The latter does not work without the former. For example, one might accept that some redistribution of quota is desirable in the interests of fairness. Only then is it useful to consider the justice of the method of doing so: for instance, whether it would be fair to buy back those quota at the taxpayer's expense given that (1) early on during the establishment of the quota management system many rights were largely obtained for free based on an operator's historical catch levels,² and (2) some fishers received no quota (or compensation) at all when the quota management system was brought in.

Similarly, only if one accepts that the public *should* receive some financial benefit from the use of a public resource can one ask whether it would be fairest to characterise that as a cost-recovery levy type arrangement, a tax, a koha or a resource rental, and what such revenue should be used for (e.g., marine conservation efforts, investing in the development of a fishery, assisting kaitiaki, or a general pot of government money). All of these questions are far from settled in the marine context.

On a deeper level, does society still even regard fish as a 'common' resource of New Zealanders, or is it rather a 'shared' resource between commercial, customary and recreational fishers?

Environmental justice

The concept of environmental justice is another lens through which the justice of transitions can be viewed in the marine context. As with distributional equity, this colours our view of *whether* a transition is just, not just *how* it occurs. It is closely related to indigenous environmental justice, which in Aotearoa New Zealand is often framed around obligations and redress under te Tiriti o Waitangi (see Parsons, Fisher and Crease, 2021).

Environmental justice is about who bears the cost of environmental degradation. At present a lot of the costs, such as by-catch and other impacts on marine ecosystems of damaging fishing, land-based discharges and other activities, are borne disproportionately by New Zealanders as a whole. And coastal communities and Māori – many of whom are advocating for greater involvement in decision making around fisheries and marine protection – are particularly affected by the damage that occurs in their

watery backyards in more than just an instrumental sense. Recreational and customary fishers (many of whom rely on the ocean as a source of food, not just an investment or source of income) are similarly affected, not just by the depletion of shared stocks, but also by the damage from mass-harvesting commercial methods in inshore areas. To Māori, this harm has a spiritual or metaphysical component (Joseph et al., 2020, p.49ff).

From an ecological perspective, human activities are damaging. But from an anthropocentric perspective, are they also 'unjust'? And if one accepts that they are, what would a just transition away from that look like? For example, would regulators simply impose a prohibition on certain inshore fishing methods, such as bottom trawling and dredging? Would there instead be investment and government incentives to encourage new gear and less damaging methods? Would there be spatial exclusion of vessels from vulnerable or recovering areas, through marine protected areas? And would that include both commercial and recreational interests? For any of the above, would it be fair to provide 'compensation', or is there just an acceptance that environmental protections are the cost of doing business?

Whether the methods of transitioning away from environmental harm are just or not partly depends on how existing 'rights', 'privileges' and 'interests' in the marine environment are perceived. Commercial fishing is a case in point, given that there are defined rights in quota: they are a form of property interest, not just a regulatory permit. What is the nature of such rights? On paper, they confer a right to take a certain proportion of a fish stock within a total allowable commercial catch; they are an allocative tool designed to apportion rights to one quota holder vis-à-vis another quota holder. But they are not a right to fish per se, in the sense of a right to fish in a particular area or time or using particular methods.³ Thus, while there may sometimes be industry resistance to sustainability measures being taken beyond the setting of a total allowable catch (e.g., restrictions on fishing methods like bottom trawling), that does not mean it automatically is unfair to do so or an abrogation of the underlying property rights.

That said, does there come a point where environmental restrictions make the exercise of a separate property right untenable, and are therefore a form of regulatory ‘taking’ for which compensation should be offered? Would it depend on how long that restriction lasted (e.g., drastically reducing catch limits to allow a stock to rebuild over a number of years)? Would it depend on whether excluding the exercise of a right from one area (e.g., in a new marine reserve) still left large areas where a right *could* be exercised? Or on whether restrictions were actually in the long-term interests of rights holders (e.g., the potential of protected areas to act as nursery grounds and enhance fish stocks)? And would it make a difference if a restriction affected all quota holders equally, or if it affected only some (e.g., prohibiting methods where there are no reasonable alternatives for catching a particular species, or establishing protected areas in some quota management areas more than others)? This question about compensation for the ‘loss’ of rights is also related to the question of who should pay for the environmental regulation of a sector. This plays out, for example, in the context of who should pay (or in what share) for the roll-out of cameras on boats, or for fundamental research about the marine environment and ecosystems (beyond just stock assessments).

There are no easy answers to any of these questions. It is arguable, for example, that compensation for the establishment of protected areas would be unfair, as the same effect could be caused by the minister simply reducing the total allowable catch (for which compensation is not payable). It is also interesting to make comparisons with the situation on land, where compensation for or grounds for overturning a decision for public interest land use restrictions are only forthcoming where they render land incapable of reasonable use.⁴ That is a high bar, and there are much stronger property rights in land (ownership) than in quota (a right to a proportion of a stock once sustainability measures are taken). That said, the fairness of such a stance is still subject to debate regarding land (e.g., the fairness of compensation when it comes to recognising significant natural areas on private land).⁵

... does there come a point where environmental restrictions make the exercise of a separate property right untenable, and are therefore a form of regulatory ‘taking’ for which compensation should be offered?

It does beg the question, however: what makes the marine context different from land, and should the bar for compensation be higher or lower?

It also highlights the risks of creating property rights separate from their broader public interest context. It means that the exercise of a right is not clearly connected to or conditional upon the responsibilities that accompany it, and attempts to add responsibilities later on can therefore be resisted because the market has evolved (prices have been set) in their absence. This is conceptually quite different from where rights to common resources are exercised on land through the RMA (where a decision to allocate a ‘right’ to use freshwater, for example, is made in tandem with a decision about the acceptability of its impacts on the environment). It is also quite different from coastal occupation rights, where ‘rights’ (e.g. from a tendering process, where used) give a preferential ability to apply for a coastal permit vis-à-vis others, but do not confer an expectation that the permit will be granted. At least in

theory, a person’s ‘right’ might not ever be allowed to be exercised if a permit is not granted. The question therefore is, often, whether it is fair and just to compensate not for the loss of a person’s rights, but rather a loss of their expectations. The other side of that coin is whether it is fair for the public to pay to avoid further environmental damage.

Environmental justice in the oceans context is not just about the impacts of fishing. Many other users have an impact on the marine environment, and issues of fairness arise here too. For example, it is arguably unjust that some people in New Zealand cannot use and enjoy their coastal environment (at least without the risk of illness) because of nutrient discharges from land-based activities, chemical contamination from storm water (much of the impacts of which remain unknown), microplastic and other waste, or sewage discharges from public waste water systems. Because of urban growth pressures and historical infrastructure underinvestment in some parts of urban New Zealand, these impacts are not felt evenly across the country.⁶

This begs much deeper questions about how Aotearoa New Zealand transitions towards a new system of infrastructure planning and funding, and associated settings for local government. The government’s solution seems to be a slow creep towards centralising waste water functions, injecting large investment into failing pipes and growth infrastructure, and reimagining the place of local government in Aotearoa New Zealand (Department of Internal Affairs, 2021a, 2021b). That involves many more questions about whether such solutions are fair for communities and taxpayers. But the point here is that the clear need for a transition can be justified with reference to what is just. It also emphasises that a transition to a new system needs to be broad and holistic in its scope. Policymakers need to look not only at a new oceans management system in a spatially defined sense (what happens on the sea), but rather at whole-of-resource management reform through an oceans lens. That includes what happens on land (in the spirit of *ki uta ki tai* – from the mountains to the sea), and beyond just regulatory settings to funding and

incentives needed to support practical action. Associated with all of this are questions about whether indigenous environmental justice requires co-governance arrangements with Māori in managing the oceans, or even the transfer of some powers or control (Joseph et al., 2020). At the least it will require recognition of and engagement with mātauranga Māori – indigenous knowledge and ways of knowing (Parsons and Taylor, 2021).

Intergenerational equity

Whether a transition is just can also be looked at in terms of intergenerational equity. In general terms (there is much more complexity within the concept), this is about maintaining the ability of current people to meet their needs while not compromising the needs of future generations (Weiss, 1989, 1990; Bosselmann, 2008). It tends to be a less prominent principle in discussions about *how* a transition occurs – especially if it is an urgent change that takes place within the lifespan of a single generation⁷ – but is central to *whether* a transition occurs and what society is aiming for. Intergenerational equity invites into the system of justice those who are not yet born and, although those alive at the moment cannot claim to speak for their interests, it reflects the idea that current generations cannot deplete our resource base, which will also be needed to support the basic needs of those to come. It keeps their options open.

In particular, intergenerational equity points to the need to actively enhance the marine environment to restore its productive potential where it has been degraded (or where people have benefited from its past degradation), and to set firm environmental limits to prevent (at a very minimum) marine ecosystem collapse. With respect to enhancement, the principle might encourage policymakers to look at activities like regenerative aquaculture (e.g., seaweed farming), which can contribute not only to local ecosystem restoration but also to climate change mitigation, as long as adverse effects are addressed.

But there is always a degree of fuzziness around what intergenerational equity actually means. Questions abound as to what justice between generations amounts to. Should laws provide for just the basic needs of future generations,⁸ or should

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they provide for equality? Do they leave the natural world intact, or seek to pass on the benefits that some forms of development provide (e.g., offshore renewable energy generation)? Will, for example, future generations blame us more for degrading the environment or for failing to develop a resource they could enjoy?

This has particular resonance when one considers the norms underpinning fisheries legislation. Is it more intergenerationally just to aim to maximise sustainable yield, or do our regulations instead need to reduce the numbers of fish caught – to rebuild the biomass in the short term to make it more resilient to land-based and climate stressors? And does a reformed system need to focus on preventing the impacts of fishing and land-based activities on the environment in order to restore the productive potential of the marine environment and thereby its ability to produce more fish in the future?

Ecological justice

Finally, there is the concept of ecological justice to consider. Some have suggested

that traditionally anthropocentric concepts like justice can be useful starting points for a more ecocentric view of the world. This sees the natural world as an actor within, not an object outside, the human community of justice (Taylor, 1986; Stone, 1972; Eckersley, 1992). This view is not entirely new – the existing prohibition on hunting marine mammals is not just because some are threatened, but also because it is seen as ‘wrong’ to do so. Current laws see dolphins as different or special, and deserving of a kind of justice closer to that which humans enjoy (Severinsen and Peart, 2018, p.58).

But should nature itself be conceived of as a separate entity, with interests or rights that should be separately recognised and defended? Should humans be seen as inherently superior beings, and should similarity to humans (as with dolphins) be the yardstick by which access to justice is measured? Humans could instead be seen as simply part of a complex web of natural relationships that need to be respected, not just users of resources having instrumental value. This is a view of the world that is more consistent with te ao Māori, which sees whakapapa and whanaungatanga (kinship relationships) as being at the heart of environmental management.⁹

As a general principle, ecosystem-based management (an integrated way of thinking with ecosystem dynamics at its heart) is essential to an ecocentric view of justice.¹⁰ Whether something is ‘just’ for nature cannot be determined without considering nature as a whole and interconnected entity. Nor can justice be sought for particular valued species without looking at how their broader environments support them.

However, the specific objectives flowing from an ecological justice approach are even harder to pin down than an anthropocentric principle like intergenerational equity. What does an ecologically just transition actually involve other than changing the language our laws and regulations use? Do drafters stop defining the oceans as resources in our laws and plans, and instead characterise them as equals, taonga, kin or ancestors? Should there be a rejection of any attempts to ‘price’ such things, on the basis that natural capital approaches and cost–benefit analyses are morally abhorrent? For

fisheries, should a new system dispense with the principle of maximum sustainable yield, and replace it with environmental limits that reflect the intrinsic worth and inalienable rights of ecosystems of which fish 'stocks' are a part?

Going further, should society build institutions that give the oceans a voice of their own? Can this build on the innovative legal personhood developed as part of the settlement processes for Te Urewera and Te Awa Tupua/Whanganui River (Parsons, Fisher and Crease, 2021), and what would be the challenges in giving the oceans as a whole legal personhood (e.g., through recognition as Tangaroa or Hinemoana, or concepts like *te mana o te moana*)? Instead of a resource rental going back into the public purse, should we treat that as 'payment' or *koha* to nature for its services (or compensation for past harm) and invest it in regeneration projects? And should policymakers pause to consider that while hunting dolphins is banned, there is still an allowance by which they can legally be killed as by-catch in trawl fisheries? Would true ecological justice mean that legal frameworks became more normatively consistent, and take a zero-tolerance approach to by-catch, recognising that human respect for nature does not kick in only when species are faced with extinction?

A procedurally just transition

How our laws and institutions transition to a new oceans management system has important procedural elements, alongside the more normatively charged aspects (about who gets or gives up things in the process of getting there). The literature generally refers to this as a distinction between substantive justice and procedural justice (Stanford Encyclopedia of Philosophy, 2017, 2.3). In short, even if an outcome is fair, that does not mean that the process has been. The significance of this has been seen in the case of Rangitāhua (the Kermadec Islands), where the substance of a proposal for protection is arguably less of an issue than the way in which (and by whom) the proposal has been developed and communicated (see, for example, France-Hudson, 2016).

There needs to be a practical pathway from the existing system to a new one, and policymakers will need to think hard about

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how that process is designed. There are several ways in which a transition to a new oceans management system could play out, depending on what the end point would be.

For example, there might be a phased approach to reforms, where immediate opportunities are taken to 'max out' what is possible under existing frameworks. Many tools are under-used (one might think of the absent exclusive economic zone policy statement, the lack of national-level regulations for oceans under the RMA, and the tools that sit dormant under the Fisheries Act), and new ones can be added to fill gaps without radical upheaval. The 'glue' that connects various frameworks could then be improved; at the moment, the system is highly fragmented. Marine spatial planning is a prime candidate for integrating decision making at some level. And while that occurs, the foundations could be set up for deeper change to our institutional and legislative arrangements. Should regional councils continue to manage the coastal marine area? Should

central government's responsibilities be arranged differently? What role should independent institutions, such as the courts, boards of inquiry and the Environmental Protection Authority, or an 'Oceans Agency', have in decision making? Should the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 be merged with the RMA (or its replacement),¹¹ or does reform go even further and create a more integrated Oceans Act?

Some important transitions are already playing out, including for climate change and resource management reform (replacing the Resource Management Act) (Ministry for the Environment, 2021; Ministry for the Environment Review Panel, 2020). That will have some overlap with oceans reform (in the coastal marine area) and provides an opportunity to progress some changes in the short term. For example, policymakers should consider whether and how spatial planning under the proposed Strategic Planning Act should apply to the marine environment.

Irrespective of the specific design choices that are made, big shifts like this raise significant questions about procedural justice. Policymakers will need to think carefully about who is involved in the process (and what the justification is for different degrees or methods of involvement); who makes decisions and who provides the evidence to inform them; how fast things happen; the resourcing behind it (including for *tangata whenua* and those community voices who do not benefit commercially from the oceans); and how different elements might be staggered and prioritised over a workable time frame. Māori will need to have a partnership role not only in a reformed system (e.g., through co-governance arrangements and independent advice based on *mātauranga Māori*), but also in the process that leads to its creation.

Conclusion

Whether small-scale or deep-seated, most reform options for oceans are likely to have impacts on existing interests. Change can be hard, and that is arguably even more the case in the marine space than on land, where it has taken longer for assumptions about the status quo

to be questioned. An important part of developing pathways to a new system will therefore be how impacts can be mitigated or managed so that any transition is equitable. That is essential not just for its own sake, but also to ensure that reforms maintain legitimacy and are durable over time.

However, this article has sought to emphasise that all conceptions of what is ‘just’ – including ecological justice – need to permeate the question of how society transitions, the processes by which it is done, and how fast it happens. Ultimately, change from an intergenerational environmental perspective must come before it is too late. Some damage will take decades to repair, if it can be repaired at all. A just transition should not be delayed so that it becomes an ‘only just’ transition (or, worse, a ‘we didn’t quite make it in time’ transition).

Above all, what is just in the broader sense of the word needs to guide *what* Aotearoa New Zealand is transitioning to. For the marine area this is by no means

settled, and establishing goals can be a complex and multifaceted task compared with the reasonably clear goals that have now emerged with respect to greenhouse gas emissions. In other words, while it is certainly one important factor, a just transition for the oceans is not only about softening impacts on existing rights holders or charting a pathway that eases economic pain. Justice and equity have a much wider resonance than that, given that society is still, despite numerous efforts over the years, in the relatively early stages of a conversation about oceans reform. And it is useful to phrase this conversation in terms of whether specific objectives for reform are ‘just’ or not, rather than reverting to conversations about general, highly malleable and arguably less powerful principles like sustainability and environmental protection. They have not served us particularly well in the past.

- 1 Reports will be made available at www.eds.org.nz/our-work/oceans-reform-project/.
- 2 That argument only applies, however, if the current quota holder was the one who received that allocation. Later quota were auctioned.

- 3 This is made clear in the Fisheries Act itself, in that the exercise of quota rights is subject to sustainability measures imposed by the minister. It is also subject to measures taken under the Resource Management Act to safeguard indigenous biodiversity, which is made clear by the Court of Appeal in *Attorney-General v The Trustees of the Motiti Rohe Moana Trust & ors* [2019] NZCA 532 [4 November 2019].
- 4 See Resource Management Act 1991, s85. That is quite different from where there is a desire to use land for a different purpose (or to extinguish a specific existing land use), in which case compensation is forthcoming through Public Works Act processes or on a willing seller/willing buyer basis.
- 5 See the current debate over proposed significant natural areas in Northland – see Far North District Council, 2021 and Harawira, 2021.
- 6 On infrastructure failures, underinvestment and its impacts, see Productivity Commission, 2019 and Cabinet Office, 2019.
- 7 It is relevant, however, where, for example, long-term investments in waste water infrastructure are made using debt finance that is paid back by ratepayers or taxpayers over more than one generation.
- 8 Compare Resource Management Act 1991, s5(2)(a) (meeting ‘the reasonably foreseeable needs’ of future generations).
- 9 See *Friends and Community of Ngawha Inc v Minister of Corrections* [2002] NZRMA 401 (HC), [2003] NZRMA 272 (CA); *Bleakley v Environmental Risk Management Authority* [2001] 3 NZLR 213 (HC); Gordon, 2015; Joseph, 2018.
- 10 On ecosystem-based management, see the variety of papers produced through the Sustainable Seas Science Challenge (www.sustainableseasciencechallenge.co.nz/). The challenge is rooted in the concept of ecosystem-based management, and it explores this concept through many different lenses (including its relationship with Maori concepts like *kaitiakitanga* – see www.sustainableseasciencechallenge.co.nz/our-research/phase-i-20142019-research/tangaroa/).
- 11 The Natural and Built Environments Act proposed by the government.

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Normal IGPS newsletter service resumes!

The loss of our Administrator, the much-missed David Larsen, has interrupted normal IGPS newsletter service. We apologise for the interruption and wish to assure readers that IGPS work continues unabated!

IGPS staff make a massive long-term contribution to the university via the *Conversation*

The *Conversation* is an open access Australasian platform for academics to make informed contributions to public discussion. Typically, if it is of relevance to New Zealand, a *Conversation* article will be picked-up by either *Stuff* or the *New Zealand Herald* or both. The IGPS has had three staff from the middle of 2018. Our three paid staff make up under 0.3% of total academic staff numbers at Victoria University. Our staff have produced, over the period of their employment, 11% of the total articles in the *Conversation* of Victoria University academic staff and 12% of the total reads of articles (Source: *Conversation* website, as at 12/08/2021).

Michael Fletcher asks some pertinent questions: "Why is the Government trying to push through a two-tier benefit system?"

IGPS senior researcher Michael Fletcher recently wrote a well-read article (over 100,000 reads) for the *Conversation*, picked up by both *Stuff* and the *New Zealand Herald*, considering the policy and process issues surrounding the Government's proposal for social insurance for sickness and unemployment. Michael's article looked at issues surrounding problem definition, suggested that the policy process was not sufficiently engaged with examining alternative solutions, and made the point that social insurance could create, rather than solve, problems with equity in our income support system.

This work will contribute to a longer academic piece on social insurance (to be done together with IGPS Director Simon Chapple), for *Policy Quarterly* later in the year.

So far, Michael's article has been read over 100,000 times. See <https://theconversation.com/why-is-new-zealands-labour-government-trying-to-push-through-a-two-tier-benefit-system-165615>.

The Hon. David Parker, Minister of Revenue will talk on "Economic equity and the tax system" in a Tax on Tuesdays event organised by Tax Justice Aotearoa and the Institute for Governance and Policy Studies

DATE & TIME: 24 August 2021, 12.30pm – 1.30pm

LOCATION: Old Government Buildings 55 Lambton Quay, Pipitea, Room GBLT4 (Lecture Theatre 4)

Following on from our highly successful 2019 *Tax on Tuesdays* lunchtime seminar series, Tax Justice Aotearoa and the Institute for Governance and Policy Studies will jointly host the Minister of Revenue, Hon. David Parker.

A growing number of civil society organisations consider wealth taxation as an important public policy issue, in terms of both reducing inequalities and expanding government revenue to support the necessary government expenditure to meet wellbeing needs.

In this talk, Minister Parker will discuss equity in society and fairness in the tax system.

Join us in an enriching discussion with the Minister, and let's talk about how we can make the Aotearoa NZ tax system one that helps all people flourish.

Pre-register for this free event by clicking this link: <https://events.humanitix.com/tax-on-tuesdays-with-minister-parker>, or just come along on the day.

More good work by Mike Joy: "Behind New Zealand's '100% Pure' Image lies a Dirty Truth": Freshwater documentary moves towards one million YouTube views

The Australian Broadcasting Commission documentary on freshwater in New Zealand to which IGPS senior researcher Mike Joy contributed significantly to researching and appeared in, now has had over 914,000 views on YouTube. That's a fantastic achievement of public issues communication from Mike, who has also been talking at the Environmental Defence Society Conference (<http://www.edskonference.com/>) where he was well-reported in *Stuff* (<https://www.stuff.co.nz/environment/climate-news/125962807/pay-farmers-12-billion-to-stop-dairying-ecologist-urges>).

Political parties and party funding in the IGPS Trust Survey: School of Government Brown Bag seminar, 2nd August

Simon Chapple presented the interim results of the 2021 IGPS Trust Survey to School of Government colleagues and others, with a focus on the results of the special module on political party funding and operation. These results have already been discussed with and provided to relevant policy makers. The full – and very interesting – results of the survey are currently being written up in depth and will be published by the IGPS in September. Updates on results and publication will come in future newsletters.

To subscribe to the newsletter, send an email to igps@vuw.ac.nz with subject line "subscribe to newsletter".



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**Institute for Governance
and Policy Studies**

A research institute of the School of Government

Edgar A. Burns

Regenerative Agriculture

farmer motivation, environment and climate improvement

Abstract

Regenerative agriculture has become a social movement in farming. It embraces the environmental basis of farming. Land, water and nutrients are viewed as an ecological whole. This includes bacteria and mycorrhiza as essential to soil health and plant diversity, and mob stocking and no-till farming above ground. Regen ag, as regenerative agriculture is often called, is a paradigm shift for farmers, who are often perceived as resistant. There is a mismatch between academic and policy interest focusing on the scientific need for and value of regenerative agriculture, and the social and human motivating benefits of regenerative agriculture. This crucial willingness, not simply the turn away from denialism, is the signal significance of this new form of farming. In New Zealand and globally, climate change and environmental degradation can be addressed much more quickly, more thoroughly and less contentiously if regenerative agriculture is supported and extended, even as science documentation is achieved over time.

Keywords carbon sequestering, emissions policy, environment, regenerative agriculture, regenerative farming, regen ag

Edgar A. Burns holds the HBRC Chair of Integrated Catchment Management in the School of Social Sciences at the University of Waikato.

The quality of discussion about regenerative agriculture/regenerative farming in New Zealand is impressive. Indeed, both 'regen ag' (the practice) and regenerative agriculture (the discussion) are exploding nationally. These things are so new that the term regenerative agriculture itself is only just coming into public awareness – or is barely even there yet – though it has a long provenance in multiple forms. It is a term used in multiple countries and encompasses a diversity of approaches to farming, including agro-ecology, holistic farming, sequence farming and many others (Raven, 2020). Regenerative agriculture can be called a 'broad church' concept, mostly inclusive of new ideas rather than distinguishing and excluding them (Lal, 2020). It is all about questioning current farming practices in the light of environmental change and damage.

There are many things to be said about the importance of regenerative agriculture, what it is, how it works, how it is being adopted, and what it might mean for

farming, food and fibre supply chains, and society more generally. Making a summary which represents the phenomenon, yet in a way that invites understanding of the nuances, is difficult and varies according to purpose or audience. The intention here is to acknowledge and applaud both the advocates and practitioners of regenerative agriculture, and the part played by those who ask questions about what is currently unknown as they engage with regen ag. The primary goal is to open up the subject of regenerative agriculture in terms of farmer motivation.

I write as a sociologist, respectful of and interested in the science and economics around agriculture generally, and regenerative agriculture in particular (Gosnell, Grimm and Goldstein, 2020). I assert that research talk and direction too quickly defaults to focusing on biophysical science questions rather than centring on the efforts of farmers. Adjusting this STEM mindset would allow greater energy and funding to go towards examining linkages and studying motivations on the farm and in rural communities and towns. This is pro- not anti-science, but sees some scientists' attitudes as circular, defeating the very adoption of practices their work indicates is needed. In supporting this needed shift to centring the social world that will make the change, instead of the experts who document the problems, I recently published a piece in an environmental educators' journal (Burns, 2020). I was aghast at the near-complete absence of previous references in the journal to farming, let alone regenerative farming.

Setting an outline

Regenerative agriculture is a proposal about changing farming in order to undo the degradation of the farmed environment. It is a shift towards farming *with* the environment, rather than treating it as merely a platform. Such an approach recognises catchments, water flows through farm landscapes, erosion of soil and leaching of excessively added nutrients (Brunetti, 2014). A verbal play on the term 'regenerative' itself is sometimes made, that we are long past retrieving sustainability; instead we need to *regenerate* soil and natural systems. Accounts of how creating

Regenerative agriculture is a proposal about changing farming in order to undo the degradation of the farmed environment.

a few centimetres of soil sequesters many tonnes of carbon and thousands of litres of moisture (Smith, 2020) imply new environmental farming practices.

There is no single promise by which regenerative agriculture creates motivation, but multiple items can be identified. Rebuilding soil profiles is a central theme. Brown's farmer account centres on experimentally rebuilding soil health, chemistry, bacteria and mycorrhiza and minimising fertilisers (Brown, 2018). Others emphasise year-round ground cover, no-till planting, mob stocking or increased plant biodiversity (General Mills, 2020). The promise of environmental regeneration connects these in changed farming practices. Evans (2020) says: 'regenerative agriculture [is] the idea that farming can reverse soil degradation and bring vitality back to the land, its plants, waterways, animals and people'.

New Zealand writers and scholars are contributing substantial and balanced information to the discussion exploring regenerative agriculture. Social, economic and science aspects of regenerative agriculture can be found in Siegfried (2019a), Evans (2020), Merfield (2019) and McAleer (2020). These and other writers also provide individual New Zealand farmer accounts (e.g. Eb, 2019; Siegfried, 2019b; Smith, 2020). Making use of this breadth of thinking and questioning is the task before government, academics and

policymakers. Roche (1994) provides a summary of the bureaucratic failures in addressing soil and water degradation; Raven (2020) is part of the recent upsurge in writing using the longer historical sweep from his own career.

Global significance is also the national promise

There is global significance in regenerative agriculture. Blaschke and Hall's exchange about a 'careful revolution' reducing emissions locates the discussion in Aotearoa New Zealand (Blaschke, 2020; Hall, 2019). A wider global promise is implied or explicit, but is not necessarily foremost in the minds of those describing themselves as interested in or doing regenerative farming. This is the potential importance of regenerative agriculture, not just nationally but globally in helping to slow climate change (Toensmeier, 2016; Sanderman, Hengl and Fiske, 2017; FAO, 2020; Gosnell, Hill and Voyer, 2020; Sharma, 2020; Smith, 2020).

This 'big' argument of regenerative agriculture can be sketched as:

- farming today occupies nearly 40% of earth's land surface;
- farming and cropping produce 30–38% of greenhouse gas emissions (the precise figure depending on sources relied upon);
- this amount of atmospheric greenhouse gas emissions is greater than that of other major emitting sectors – for example, more than global industrial and transport combined;
- the idea of stopping food production sounds like a greater problem than addressing other sectors contributing to climate heating;
- regenerative agriculture has the potential to reduce (mitigate) the amount of carbon emitted by farming currently and increase water resilience, rivalling forestry plantations and in a much quicker time frame.

Quantifying how much carbon can be drawn down, and differentiating the range of circumstances and time frames, is the continuing valued task of science. But any disapproval of or attempt to control the farmer-led move to regenerative agriculture until answers have been found misses the point. Like climate change itself, scientific

investigation is often a post hoc process, confirming or modifying understanding. Lived reality happens – in this case a movement within farming. Science did not invent something called regen ag and then decide to analyse it. Rather, the phenomenon has grown and the appropriate scientific assessment subsequently takes place (Fulton, 2019).

To the global statistics – different sources provide varying or updated percentages, but the basic story is the same – can be added the New Zealand statistics, which are uncomfortably parallel and increasing, such as half of our greenhouse gases coming from agriculture, with dairying comprising half of this (Ministry for the Environment, 2019). Various parliamentary commissioner for the environment reports over 20 years have documented this trend. The regenerative agriculture claim is that indicative measures suggest that massive amounts of carbon and water could be retained in the soil. This would benefit farmers and food production, reduce landscape degradation and restore water quality. As with issues of complexity in any situation, the interaction of sectors/stakeholders involved in causing the problem needs to be part of the solution (Bardsley et al., 2020, p.14; Dockstader and Bell, 2020; James, Iorns and Gerard, 2020). Food provenance and consumer demands, as well as urban requirements for clean water and less sediment, are no longer a shoulder shrug of ‘that’s what happens in farming’ but part of the pressure supporting change.

The story of carbon sequestration can be retold in terms of water pollution, nutrient loss and erosion. Two years ago, Journeaux et al. (2018) managed just a mention of ‘[r]egenerative agricultural techniques like holistic grazing that sequester carbon into soil and planting perennial polyculture food systems with integrated animal systems’. Mike Joy’s repeated explanations of the degraded state of New Zealand’s waterways are only surprising because of the national inculcation from drinking our own Kool Aid: ‘clean and green’ we are not, the tourist success of that tag line notwithstanding.

Government policy: moving right along

In July 2020 the New Zealand government accepted the report of the Primary Sector Council, a body it had set up in 2018

... regenerative agriculture is, from the government’s point of view, a component in addressing ‘the Government’s existing emissions targets’, but nine references to ‘emissions’ in the report are not directly attached to regenerative agriculture.

(Primary Sector Council, 2019; Ministry for Primary Industries, 2020). Murphy reports the government agreeing with ‘the vision and the need for speed’:

After a long period of consultation and research, the council’s vision for New Zealand’s primary industries is all encompassing: ‘We are committed to meeting the greatest challenge humanity faces: rapidly moving to a low carbon emissions society, restoring the health of our water, reversing the decline in biodiversity and, at the same time, feeding our people.’ (Murphy, 2020)

This is, of course, not policy but setting the strategic direction for policy development. As might be expected, the positivity in the public release emphasises building New Zealand’s rural economy and

adding economic value. Regenerative agriculture is one of six topics discussed in the middle section of three main sections (‘Productive’, ‘Sustainable’, ‘Inclusive’) of the government’s report. Case study 3, ‘Regenerative farming at Rehoboth farm’, outlines a South Otago sheep operation (Ministry for Primary Industries, 2020, pp.12, 20).

As Murphy points out, regenerative agriculture is, from the government’s point of view, a component in addressing ‘the Government’s existing emissions targets’, but nine references to ‘emissions’ in the report are not directly attached to regenerative agriculture. The potential, however, for regenerative agriculture to far outrank other solutions to greenhouse gas emissions points to a particular urgency in expanding policy attention to current innovation happening within the farming community. The desire for inclusivity – to enhance well-being, jobs and communities – is the third main plank of the report.

Now received by government, the report becomes its ‘acceleration roadmap’ for policy formation for te taiao, the natural world. Regenerative farming at page 17 gets two bullet points under ‘Regenerative farming and establishment of Te Taiao’:

- Investigate the use of regenerative farming to help meet our Te Taiao goals.
- Develop a programme for realising Te Taiao across farming systems including pilot farm projects and science development.

‘Freshwater and productive land’ also gets two policy bullet points, but with no mention of mātauranga Māori, with which ecologists find a deep affinity:

- Implement new regulatory frameworks for improving water quality and management of productive land, including introducing mandatory farm environment plans.
- Enable catchment groups and other ‘on-the-ground’ collective groups to take action to improve the health of waterways.

For both, these are high-end general strategy statements, not detailed proposals; that comes later in policy elaboration of the big picture. What is significant, however, is the prospective nature of the points – somewhere in the future, despite the

rhetoric of ‘acceleration’. Clearly, policy formation is an accumulative process, involving stakeholders and interests. But this is lagging behind the reality of the adoption of regenerative agriculture by New Zealand farmers.

It can be noted that Te Mana o te Taiao, the Aotearoa New Zealand Biodiversity Strategy (Department of Conservation, 2020) does not even pick up regenerative agriculture at all, although some concepts of sustainable agriculture supporting biodiversity conservation appeared in the first strategy in 2000.

Regen ag motivates farmers, and why that is important

Energising policy

The potential policy importance of regenerative agriculture is that it energises, brings forward and sees enactment of environmental changes consistent with these strategies for policy formation. It does so in comprehensive, cultural and attitudinal ways. It can be argued, as Eb’s title indicates, that ‘With the walls closing in, regenerative farming is a way forward for agriculture’, a pattern of much human change (Eb, 2019). But regen ag is much more than pre-emptive compliance, regulatory concession or ‘getting in first’. The farming community’s interest in regenerative agriculture, its internal group discussions and willingness to experiment have yet to create a ‘tipping point’ that can be called a paradigm change.

Previous lack of change, or resistance to change, has deeply concerned regional councils, innovative farmers, environmental scientists and policymakers, even as the science has settled. Today, the keen interest and the willingness to adapt and radically change farming practice is something to be celebrated and supported, so that it continues and expands. Whatever the science suggests by way of future modifications, regenerative agriculture is a good thing in multiple ways. It takes a whole-of-farm approach. In ecological terms, it aims to respect the environment, not ignore it. Against unthinking extraction of more and more, whether water, animals, trees or crops, there is a new recognition of environmental limits. There is a corresponding willingness to experiment to establish what works, or does not, in

Over some decades a limited number of scholars have excavated knowledge about farming practice and values from farmers themselves ... doing so specifically about regenerative agriculture.

different parts of the country, given this new motivation.

Deflecting critique

What has long been criticised globally as ‘industrial farming’, ‘fertiliser capitalism’ or with similar negative epithets is turned around in regenerative farming to start with the farm’s ecology and hydrology as the engine of results (Masters, 2019). Criticisms of farming, particularly dairying, include it being extractive, polluting, leaching, and letting degradation extend beyond farm boundaries. The new paradigm improves soil organic matter and water retention, and reduces nutrient run-off and erosion. Regenerative agriculture’s environmental drive seeks better ways to manage pasture and farmland. In policy terms, this is the difference between building a ship and getting it out of the port and rudder work modifying direction given existing forward momentum.

Criticism of ‘regenerative hype’ and demand for prior biophysical research are too late; the horse has bolted (Rowarth, 2019; Anderson, 2020; Fulton, 2019). These

sensible enough points need to be made as part of the paradigm shift taking place. Worse, perceived negativity by experts or advisors (Hickford, Rowarth and Edlin, 2020), even if positively intended as sensible precaution, must be advanced in such a way as to keep the forward momentum of this once-in-a-century shift in farming orientation. The still mid-20th-century attitudes shown by Hickford et al. compare poorly with an equally long-standing soil science oeuvre referenced in Lal’s (2020) positive assessment of regenerative agriculture. Granted there is need for cool-headed evaluation, but this shift, like the second half of a rugby match, is about momentum, not plans. Farmer motivation for the environment is the holy grail politicians, scientists, ecologists and some farmers have been seeking for years.

Regen ag as a social movement

Regenerative agriculture can be understood sociologically as having the characteristics of a social movement: it has an overarching but diffuse purpose; there is a group solidarity that includes events and organisation but is part of a wider network; specific and still-emerging projects are understood within the overall agenda about soil, fertiliser, erosion and biodiversity recombinations; it is a progressive movement, not a reactionary one. There are still plenty of farmers who think erosion of tonnes per hectare per year is ‘normal’ farming, but that understanding is starting to shrink; it will shock the laggards as the change sinks in.

Diffusion theory (Rogers, 1995) recognises that regenerative farmers, like farmers generally, comprise multiple groups, with early adopters, mainstream adopters and resistant late changers. Farmer motivation, ergo, is not one thing, but varies by sector, land use and region; the Quorum Sense group, describing itself as ‘NZs regenerative farming network’ (www.quorumsense.org.nz/), is one example of early adopters. Phrases like ‘rapidly growing’ or ‘widely promulgated’ (Bardsley et al., 2020) used about regenerative agriculture indicate an emerging sense of urgency and possibility among farmers. All humans, not only farmers, are social beings; the present sense of renewed solidarity of purpose

rather than solidarity of resistance translates opposition to motivation. Regenerative agriculture creates important direct and indirect motivations for farmers. It is no longer a matter of waiting for the science, government policy or tougher regulations.

From denialism to environmental stewardship

The stereotype of farmers in the larger urban centres is of them being conservative and resistant to change. While there has been sensitivity to the demands for, and costs of, changing environmental farming practice, Evans remarks that, 'No farmer wants to degenerate their land' (Evans, 2020). McAleer expresses this in more general terms: 'New Zealand is thirsty for knowledge about regenerative agriculture' (McAleer, 2020). She cites Manaaki Whenua Landcare Research and Beef + Lamb New Zealand as organisations initiating regenerative agriculture research in 2020. Over some decades a limited number of scholars have excavated knowledge about farming practice and values from farmers themselves (McManus, et al., 2012; Hunt et al., 2013; Stephenson et al., 2020), Gosnell, Gill and Voyer (2019) doing so specifically about regenerative agriculture.

Regenerative agriculture motivation taps into fundamental farmer identity. Farmer autonomy turns out to be a motivational lever for getting on with the job of a new kind of farming. Why is climate denial among farmers waning? First, American corporate conservative activist-denialists (and Rogernomics) for a time hijacked farmer conservatism. Hunt et al. (2013) showed the narrowing effect on farmer understanding. Second, antipathy to politics is a related but distinct sensibility. New Zealand farmers' anti-politics is part of society-wide dislike of politicians' veniality and perceived self-serving or corporate-serving behaviour (Copland, 2020). The fusion of anti-environmentalism and anti-politics is dissolving, however, as traditional care of land is reasserted. Third, my perception is that farmer denialism is significantly fading as children bring ideas home from school and university, and a greater awareness that neo-liberal corporate ideologies are not, after all, in farmers' best interests.

The potential
of regenerative
agriculture
is sequestering
carbon, reversing
environmental
degradation
and maintaining
food production
by farmers,
benefiting
New Zealand's
national
economy and
the global
environmental
crisis.

Farm viability and regen ag economics

Regenerative farming is motivating farmers to reposition farming. At a July 2020 presentation to 100 people at Clive, near Hastings, Peter Barrett of Linnburn Station, Central Otago explicitly rejected sentiment or philosophy, saying that for him it is all about the money. Previous costly fertiliser application was making no difference, wasting money. Trial and error since 2014 to economically survive, spreadsheet-based, led to diverse planting and mob stocking. Regenerative agriculture on this understanding is just good farming. Farmers commonly focus on farm viability, yet financial discussion often turns to demotivating aspects of well-being, social negativity about farming and similar. Evans asks:

Could these more intangible human benefits be one of regenerative

agriculture's greatest contributions? For years, farmers in New Zealand have felt beleaguered and misunderstood, persecuted for their cows' farts and blamed for the state of the waterways. Switching to a kind of farming that places the well-being of land, people and animals at its heart helps farmers feel like they're part of the solution. (Evans, 2020)

The relationship of farm economics to these major changes in farm practices is a priority for detailed examination (LaCanne and Lundgren, 2018). The New Zealand parliamentary commissioner for the environment has consistently recommended 'more sustainable' farming as economically sensible, drawing on a large body of pre-existing research on water and soil conservation work.

This economic emphasis is especially important as links between farming environmentally and the financial implications continue to shift, potentially quite quickly. What could be the different consequences for early adopters, or farms on marginal country? What changes when regen ag is adopted at scale? Positive and adverse experiences will affect motivation for this necessary shift. Negatively, there are no guarantees that all farmers will be able to survive under regenerative farming. Positively, sudden economic change (Oram, 2020) or scientific discovery (Beerling et al., 2020) can leverage the regenerative paradigm shift. Carrington (2020) headlines the latter with a new research finding that 'Spreading rock dust on fields could remove vast amounts of CO₂ from air'.

Conclusion

The motivational benefits of regenerative agriculture for farmers and farming are separate from and antecedent to scientific documentation of its effectiveness. Motivation is separate from but equally as important as the technical measurement of biophysical parameters, not a mere add-on to the science. Attempting to reframe regenerative agriculture in STEM terms as needing biophysical assessment and evaluation before going ahead misses the point. Of course regenerative agriculture needs full inquiry. It is much better,

however, to accept the principal framework that the motivational energy is broadly in the right direction – a profound reversal, in fact – and build the science, economic implications and feasibility questions from there.

The potential of regenerative agriculture is sequestering carbon, reversing environmental degradation and

maintaining food production by farmers, benefiting New Zealand's national economy and the global environmental crisis. There are dangers of the term being superficialised and overused by journalists and politicians. Policy dangers for regenerative agriculture include ignoring, downplaying, superficialising, regen-washing or 'overcooking' what it might offer. Attention

to the core of motivation will best enable regulation, positive support and measurement. This is achieved by replacing individualising and psychologising talk of 'barriers' to motivated change with less judgemental and less simplistic language about 'frictions'.

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What Is Happening to Tax Policy in New Zealand and Is It Sensible?

Abstract

This article reviews two recent changes to tax policy settings in New Zealand: an increase in the top income tax rate and a ‘housing package’. It argues that both represent ad hoc responses without a coherent strategy. Further, government officials’ policy assessments confirm that these were progressed unduly rapidly, based on limited analysis and against official advice on the most suitable option to deliver on the government’s own objectives. This is likely to result in policy outcomes falling well short of objectives, and potentially serious unintended consequences. Coherence of the tax system in particular is at risk.

Keywords housing package, tax policy, top tax rate, policy space

In debates about economic policy, economists often talk about ‘optimal policy instruments’. These are usually characterised as a policy (the ‘instrument’) which: (1) achieves its objective or target; (2) does so in a way that is more effective or efficient than the alternatives; and (3) has minimal unintended consequences. In New Zealand the new Labour government, elected in September 2020, has introduced

a number of substantive changes to the country’s tax regime. These include two largely separate sets of tax changes. First, implementing their election manifesto, a top personal income tax rate of 39% was introduced from 1 April 2021, but at a much higher annual income threshold, of \$180,000, than when this rate last applied in 2009. Second, in March 2021 the government announced its intention to introduce a package of policy measures aimed at dealing with a number of contemporary housing problems. Most of those measures relate to the ways in which housing is taxed.

Worryingly, evidence from official ‘regulatory impact assessments’¹ suggest that in both these cases the government’s policy choices deviated significantly from those recommended by officials. This raises the obvious question: is the government undertaking distinctly sub-optimal policy reforms? Or, are officials perhaps simply displaying either a different set of preferences or undue commitment to the status quo?

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Table 1: Additional income tax revenue

Income Band	Number of people	Ave Taxable income (\$)	Additional Revenue (\$M)
\$180,000 – \$190,000	10,500	184,775	3.01
\$190,000 – \$200,000	8,600	194,790	7.63
\$200,000 – \$210,000	7,000	204,799	10.42
\$210,000 – \$220,000	7,000	214,972	14.69
\$220,000 – \$230,000	5,700	224,789	15.52
\$230,000 – \$240,000	4,800	234,938	15.82
\$240,000 – \$250,000	4,200	245,450	16.49
\$250,000 +	38,900	442,242	612.07
Total	86,700		695.45
IR (2020) Estimate:			510.00
IR (2020) Estimates (trust rate = 39%)			878.33

Source: Inland Revenue, 2020 and author’s calculations using data from www.ird.govt.nz/about-us/tax-statistics/revenue-refunds/income-distribution

This article examines these two new tax policies in turn. It suggests that, at a minimum, both tax policies appear to have been implemented prematurely, with little suitable official advice. In some cases, officials clearly feel that the government’s policy choices could seriously undermine the coherence and integrity of the current New Zealand tax system. Their concerns would appear to be supported by evidence, where available, and otherwise by ‘in principle’ reasoning.

The new top tax rate

In November 2020, Inland Revenue conducted a regulatory impact assessment of the government’s proposed new top personal income tax rate of 39% on incomes above \$180,000 (Inland Revenue, 2020). This clarifies that the objectives of the policy were to: (a) raise more revenue to fund the government’s intended future spending; and (b) do so in a way that improves equity. Evaluation of the policy *ex ante* can therefore be decomposed into four important aspects:

- (1) How much equity improvement will be achieved?
- (2) How much extra revenue will be raised?
- (3) What sacrifice in efficiency will be made in pursuing these objectives?
- (4) Could the objectives be achieved at a lower efficiency sacrifice?

On (1), empirical analysis from Inland Revenue (2020) shows that the effect of the top tax rate increase on the Gini coefficient – the most commonly quoted inequality index – is likely to be very small. It is

forecast to fall by 0.2%, from 0.493 to 0.491. In fact, despite ‘raise the top marginal income tax rate’ being a popular mantra of the political left, changes to income tax rates at the top of the income distribution typically have little overall distributional impact. This is partly because the Gini coefficient weights each individual by the inverse of their rank in the income distribution.

For example, with a population of ten people the richest person receives a weight of 1/10th while the lowest-income person receives a weight of 1. Those earning over \$180,000 are less than 2% of New Zealand income taxpayers, so we could characterise the distribution as composed of 50 groups each of 2%, such that those with incomes exceeding \$180,000 are given a Gini weight of 1/50th compared to a weight of 1 for the lowest 2%.² Unsurprisingly, the Gini inequality measure is, therefore, not very sensitive to changes in top incomes. Gini indices are affected much more by how incomes of the lowest groups are treated. Of course, it may be objected that the equity effects of a tax increase should be assessed jointly with the use of the tax revenues raised. That is indeed a more sensible way to evaluate the policy, considered further below.

On (2) – how much extra revenue is raised? – Inland Revenue (2020) estimates that, averaged over the first three full years of its operation, the new tax policy will raise, on average, \$510 million per year, 2021/22–2023/24.³ This represents just under (over) 0.4% of total Crown expenses

(revenue) in 2020 (see Treasury, 2020). It is clear therefore that the new tax policy has a very limited capacity to increase Crown spending, or increase equality via the targeting of that spending at lower-income groups.

On (3) – what sacrifice in tax efficiency can be expected? – Inland Revenue (2020) does not report this. However, economists normally measure it by the deadweight loss (DWL) associated with a tax increase – the extent to which taxpayers’ ‘utility’, or sense of wellbeing, is harmed, per dollar of extra revenue raised. Of course, all tax levels are associated with some utility loss, compared to a no-tax situation. The issue here is how far the increase in tax rates further reduces utility. A familiar approximation for that additional utility loss is that it increases with the square of the tax rate. Mathematically it can be approximated (see Creedy, 2004), as a ratio of after-tax income, by:

$$D/Y \approx \alpha \{t/(1-t)\}^2$$

where *D* is the deadweight loss from the tax increase, *Y* is the value of taxable income, α is a measure of the responsiveness of taxpayers’ incomes to the tax change and *t* is the tax-inclusive tax rate (the way that tax rates are usually written in income tax legislation).

Thus, the DWL as a ratio of income increases approximately in proportion to the square of the (tax-exclusive) tax rate, $t/(1-t)$. Plugging in values for α it can be shown that this 18% increase in the top tax rate ((39 – 33)/33) will be associated with a 68% increase in the deadweight loss. This holds irrespective of the value used for α .⁴ These are potentially very large losses in wellbeing for those experiencing the tax increase, and hence this ‘cost’ would have to be given a very low subjective weight by the government if it is to justify the very small effect of the tax increase on equality and extra spending (the ‘benefit’). It may be argued that, implicitly, this is the current government’s ‘revealed preference’.

A more limited estimate of the efficiency losses from tax ‘restructuring’ and avoidance associated with the new policy can be gleaned from the same data in Inland Revenue (2020). Table 1 below uses data from Table 3 of the regulatory impact assessment and publicly available Inland

Revenue data on taxpayer numbers and total taxable income to derive average taxable income in each income band.⁵ The right-hand column shows how much additional tax revenue would be raised from the \$0.06 increase in the top tax rate if there is no behavioural response to the tax change; that is, assuming average taxable incomes reported in each income band in 2020 remained unchanged. This yields a total revenue gain of \$695 million. However, as noted above, Inland Revenue's estimate of actual revenue expected from the tax increase – with an unchanged trust tax rate – is around \$510 million, slightly less than the 2020 Labour election manifesto estimate of \$550 million.

This suggests a roughly 36% loss of income tax revenue $((695 - 510)/510)$ due to behaviour changes such as tax planning and avoidance, assuming all 'missing tax' at the 39% rate is taxed instead at 33%. This number could rise substantially if the avoided income tax is either taxed at the corporate income tax rate of 28% or avoids tax altogether. Had the government adopted the Inland Revenue (2020) recommendation to also raise the trust tax rate to 39% (given the top personal rate increase), Inland Revenue estimates a revenue gain of \$878 million. In other words, a revenue gain of around 72% of the actual amount forecast $((878 - 510)/510)$ is expected, split roughly equally between revenue effects from personal income tax and trust tax changes.⁶ This is a very substantial forecast revenue loss from the government's chosen top tax rate option, largely due to undermining the integrity of the personal income and trust tax regimes.

On policy evaluation aspect (4) – could these equity and revenue objectives be achieved at lower efficiency sacrifice? – the answer is almost certainly yes. First, as noted above, Inland Revenue argues that, at a minimum, raising the trust tax rate to align with the top personal rate would substantially improve the integrity of the system, raise more revenue and reduce the restructuring that will result when the top personal rate only is increased.⁷

Second, while examining a range of detailed alternative policies is beyond the scope of this article, as argued above, since the Gini inequality index is much more sensitive to incomes at the bottom of the

distribution, reducing income tax payments for those taxpayers is likely to be much more effective. If tax revenues have to be maintained, it would be better – in terms of equality improvements delivered at lower efficiency losses – to raise GST rates (for all) and lower income tax rates only at the bottom of the income distribution. Alternatively, income transfers to lower earners (such as via family tax credits) could be paid out of higher GST revenues and almost certainly reduce inequality indices. Similar scenarios have been examined rigorously by Thomas (2015, 2020) and shown to be more effective for redistribution in many OECD countries, including New Zealand.

The discussion above certainly does not qualify as careful 'analysis' of the top tax rate policy. However, there would seem to be a *prima facie* case that, in addition to

especially given the way the new policy has been structured, the actual effects are likely to be minimal on equality and small on revenue, but will impose significant costs in terms of the efficiency and integrity of tax revenue raising in New Zealand.

The housing tax package

The second major tax policy introduced by the new government – but which was not foreshadowed in the election manifesto – is a package of reforms to the taxation of housing. This is combined with a number of other legislative changes related to housing, though the tax component is clearly the major reform.⁸

The main elements of the package are these:

- phasing in the removal of the tax deductibility of interest on loans for residential investment properties;

It is hard to avoid the conclusion that the new higher top tax rate is a policy designed to deliver the *appearance* of redistribution by focusing attention and revenue raising on top earners.

giving tax officials insufficient time to conduct suitably careful analysis (about which the regulatory impact assessments suggest they feel strongly), the tax increase option pursued by the government is a long way from an optimal choice. This is all the more surprising when it is recalled that former Labour finance minister Michael Cullen also failed to raise the trust tax rate with the top personal rate in 2001. Subsequently, this was widely recognised as a mistake, with clear evidence that it led to substantial tax sheltering of personal incomes, undermining the government's own objectives (see Gemmill, 2020).

It is hard to avoid the conclusion that the new higher top tax rate is a policy designed to deliver the *appearance* of redistribution by focusing attention and revenue raising on top earners. However,

- extending the bright-line test – the end date of the period during which the property sale attracts a capital gains tax liability – from five to ten years;
- 'new builds' to be favoured in the above tax treatments, for example retaining the five-year bright-line threshold for new properties;
- a new 'changes of use' rule that effectively means a main family home will be liable to capital gains tax if it is sold within ten years of purchase and has been rented out for a year or more during that period (levied pro rata on the fraction of time rented);⁹ and
- a new \$3.8 billion 'Housing Acceleration Fund' to encourage housing development by 'funding the necessary services, like roads and pipes to homes' (Ardern et al., 2021).

We can evaluate this policy using the same three characteristics of optimal policy noted in section 1.

Achieving the policy's objective

Economists have a policy 'rule' (derived rigorously in the 1950s by the Dutch Nobel-winning economist Jan Tinbergen) that to achieve a given number of independent policy objectives, you need at least as many independent policy instruments. It is debatable how many independent policy 'instruments' the new housing package represents, since it contains several interrelated, as well as

New Zealand governments (National and Labour) that have been made over the last 20 years at least. In all cases the biggest problem has been insufficient attention to boosting housing supply. Of the current policy, the ministers' press release claims that the policy 'will help green light tens of thousands of house builds in the short to medium term' (Ardern et al., 2021). This time horizon may describe the setting of a 'green light', but it almost certainly will not deliver a substantive short-to-medium increase in the housing stock. Anyone doubting that statement need only consider the response to the KiwiBuild policy during

Now in New Zealand that coherent principle has been put aside. If tax deductions on housing investment loans are to be denied, what about other types of business loans which future governments think should be favoured or disfavoured? Should so-called 'ethical' investments be tax favoured with preferential interest deductibility? Or what about investments in environmental mitigation? No doubt argument can and will be made for each of those, but such policies would result in an increasingly ad hoc tax system generating multiple undesirable distortions, and tax lobby groups with perverse incentives. This is not 'closing a tax loophole', but introducing a major tax distortion to a previously coherent regime.

If there is a coherent argument in favour of the interest deductibility denial, it would run as follows. Economists often distinguish between goods used for consumption today and those that represent investment for tomorrow. In practice, there is more of a continuum, with perishable food providing an example of a 'pure' consumption good, and an interest-bearing government bond a 'pure' investment good. Residential housing sits somewhere in the middle since it is both a source of housing consumption (whether as tenant or home owner) and a housing investment for landlords, bringing a return in the form of rent and potential capital gain.

It would also be coherent to argue that, for goods that are close substitutes, tax rates should be as close as possible. This aims to avoid buyers choosing between different goods delivering the same utility, based purely on their tax treatment. In the housing context that could lead to taxing similar investments in different industries and assets, including housing, identically – as the current rules do. However, it could alternatively lead to taxing housing used for consumption identically to housing used as an investment. This could be achieved by taxing home owners' imputed rent and making all investment loans tax deductible. For various reasons, this latter approach does not happen and would be difficult to introduce.

The new policy of denying interest deductibility for rental housing loans makes the choice between different motives for housing spending (consumption versus

The new policy of denying interest deductibility for rental housing loans makes the choice between different motives for housing spending ... more equal but at the expense of introducing a major incoherence into the taxation of investment financing.

separate, measures. However, it has several explicit objectives, including stabilising house prices; facilitating home ownership; discouraging 'speculative' (definition elusive) housing investment; increasing the housing stock, especially of 'affordable homes' (definition elusive); and closing what ministers describe as a housing 'tax loophole'. Add to that an implicit objective of tackling perceived inequalities in income and wealth between tenants, landlords and home owners. That is quite a task for any set of policy instruments to achieve. Indeed, with such wide-ranging objectives, it would be remarkable if any set of housing policies could reach them all with much success.

Arguably the primary objective of this housing package is stopping the rapid increase in house prices, especially high in Auckland in recent years.¹⁰ Failing to achieve this would simply put it among a long line of policy attempts by previous

the last government, and the existing (and expected future) constraints faced by the construction sector.

Unintended consequences

All taxes cause 'distortions', most of them unintended, which need to be mitigated. Additionally, policies which have conflicting objectives are 'incoherent' and typically among the most distorting.¹¹ Such incoherence would seem to apply to the denial of interest deductibility by the housing package. Previously in New Zealand and in almost every other country, interest on commercial loans is treated as a legitimate business expense and hence tax deductible, regardless of the nature of that business. In New Zealand in particular, this is part of a coherent corporate tax regime that treats interest payments on investment funded by borrowing, but not when funded by new equity (share issue), as tax deductible.

investment) more equal but at the expense of introducing a major incoherence into the taxation of investment financing. Further, even with this new housing package, the new tax system – with no tax on home owners’ imputed rent, but (even higher) tax on landlords’ rental income – penalises some housing spending but not others. If there is a tax loophole here, it is the longstanding policy that treats home owners’ imputed rent as non-taxable.

With an objective of increasing housing supply, it could be argued that the ‘new build’ aspect of the housing package (a genuine newly created ‘loophole’) has got some tax incentives right – to maintain landlords’ relative returns from rental housing investment only if that involves adding to the housing stock. However, it must be doubtful whether this will generate a net improvement in the housing ‘problem’ as perceived by the government. If the binding constraints on building new houses lie elsewhere – such as planning regulations, release of suitable land and construction labour shortages – the ‘new build’ policy is likely to have little impact on new housing stock.

If it does not significantly increase supply, it will simply shift some housing investors from competing with first-time buyers over existing properties to competing with them over new properties, with consequent price effects. To this will be added the unintended consequence of an incoherent housing tax policy in which, over time, the rental housing stock becomes a patchwork of properties where some do, and some do not, qualify for ‘new build’ tax exemptions. At present the government is still consulting on how to resolve this conundrum. Exploiting the inevitable resulting tax loopholes and assorted distortions to the prices of different properties will likely provide plenty of billing hours for tax accountants.

The bright-line test is another policy dimension that lacks coherence, in part because it is rarely the case that a tax policy whose liability is based on transactions and/or timing is good tax policy design. The bright-line test – of whatever length – does both. It incentivises delaying property sales to avoid the tax even when this conflicts with the best commercial or personal interests of the taxpayer. As

originally introduced as a two-year test by the Key government in 2010, it was hard to justify as a coherent strategy, not least because it was not based on any evidence on the timing of property sales by investors, and there was no problem definition regarding what constituted ‘property speculation’.¹²

Raising this to five years by the 2017–20 coalition government, and now to ten years, cannot credibly be described as a policy to deter short-term speculation. It is simply a back-door capital gains tax. As with most such back-door policies, this political approach to a capital gains tax is inevitably

economically disadvantageous to sell that home. The combination of high transaction costs and the likelihood of losing out via faster Auckland price rises when trying later to buy back into the same market means that it is generally better to rent temporarily in the new location, funded by renting out the Auckland home. Similar arguments apply to other cities with relatively high house price inflation.

An illustration by the journalist Henry Cooke provides a salient example (Cooke, 2021). Consider a taxpayer earning \$80,000 per year who buys a family home for \$1 million. After six years the house is sold for

Without biting the hard political bullet of reforming regulations around the construction sector ... and designating more close-to-city land for urban zoning, there seems little prospect of house prices in Auckland and other cities stabilising given current demographic- and income-driven housing demand trends.

less transparent and coherent than designing a policy to tackle the problem ‘front on’. A more coherent, as well as politically more transparent, approach would tax capital gains similarly on all assets and regardless of how long they have been held – which sounds very much like something proposed by the 2019–20 Tax Working Group.

Despite ministers’ claims to the contrary, this new capital gains tax will apply to family homes if these have been partially rented out. No data has been made available on what fraction of family home owners may fall within this category, but it could be non-trivial.¹³ For example, home owners in expensive cities such as Auckland, when moving temporarily out of the city (for example, due to a short-term job relocation) will typically find it

\$1.6 million, having been rented for two of those intervening years while the owner rented elsewhere. Cooke shows that this taxpayer will have a capital gains tax liability of \$72,000 under the new tax regime – nearly a whole year’s salary – simply to move to an equivalent priced home.¹⁴

Alternative policy instruments

If the current housing package seems worryingly incoherent, are there more coherent alternatives? There isn’t space here to delve into this in detail. But it is unequivocally the case that ad hoc tinkering with a coherent tax regime should be avoided as a priority. Instead, strong incentives to encourage, and enable, house building are required. This has applied particularly to Auckland

for some time, but may be becoming increasingly relevant in other cities, such as Wellington. Current and previous governments (National and Labour) have failed to deal with this, in part by aiming their housing policies nationwide, when the house price inflation problems have been almost exclusively urban and, until recently, Auckland.¹⁵

Without biting the hard political bullet of reforming regulations around the construction sector (e.g., allowing more building 'up' as well as 'out'), and designating more close-to-city land for urban zoning, there seems little prospect

of disliking 'urban sprawl' and encroachment on recreational or conservation land. However, the (likely unintended) consequence of refusing to consider such policies is perpetuation of substantial income gains to existing property owners at the expense of non-owners, and older, at the expense of younger, New Zealanders.

Tax policy conclusions

The incoming National government of Prime Minister John Key in 2008, and Jacinda Ardern's new Labour government, both inherited huge economic upheavals – the global financial crisis and the

unintended consequences seem likely to follow. Coherence of the tax system in particular, once undermined, can be very hard to re-establish.

Assessing tax policy proposals

The foregoing discussion suggests a possible framework for thinking about sensible tax policy design or reform. In particular, a distinction can be drawn between policies that are economically and/or socially desirable (within the constraints of what is feasible and can be supported by evidence) and policies that are politically implementable. In the first instance it is not the role of the tax policy adviser to prejudge what tax settings politicians will, or will not, be willing to pursue. Politicians and ministers can have a variety of both self-interested and socially responsible notions of what they want to achieve with taxation policy. These will often reflect their own value judgements regarding the outcomes of those policies, such as who within society gains and loses. However, it is vital that tax analysts offer policy choices that are based on sound economic analysis while recognising implementation constraints, and are as free as possible from their own value judgements. They should also seek to make explicit the (often implicit) value judgements that underlie ministers' objectives and policy preferences. This way, they can hope to guide political decision makers towards policies that will achieve their objectives as fully as possible and with the fewest undesirable side-effects.

Two political reactions in particular should be recognised. First, when considering possible new taxes or tax reforms, ministers will often (reasonably?) consider whether such action would risk too much 'political capital' in the form of voter backlashes. As a result, they may prefer policies that minimise political risks, while economic analysis identifies that such risk-minimising policies are also economically much further away from an optimal policy than an alternative tax policy. Avoiding presenting ministers with the alternative option on the grounds that 'ministers would never adopt it' is not a good reason for treating it as 'not practical'.

Second, politicians on the left and right of the political spectrum can readily

... New Zealand's approach needs updating to ensure that schemes achieve meaningful waste reduction rather than simply rubber-stamping a plethora of glorified recycling schemes.

of house prices in Auckland and other cities stabilising given current demographic and income-driven housing demand trends. Ironically, raising the income cap on the government's home loan scheme, rather than incentivising supply can be expected to further raise housing demand in the short run.

If housing supply is to be expanded significantly, and quickly, the government needs to look at substantial policy shifts to bring more land into residential use and facilitate new construction on such land. That is likely to mean rezoning some rural land (whether currently farmed or non-farmed) and subsidising investment in public infrastructure associated with these new developments. Such an approach could involve compensating local councils for reduced or cancelled 'development contributions', which would encourage new builds by reducing builders' costs and/or reduce new house sale prices (where these costs are no longer passed on to buyers).¹⁶ Rezoning of land is often a controversial policy, with voters generally

disliking 'urban sprawl' and encroachment on recreational or conservation land. However, the (likely unintended) consequence of refusing to consider such policies is perpetuation of substantial income gains to existing property owners at the expense of non-owners, and older, at the expense of younger, New Zealanders.

Covid-19 pandemic respectively. Both called for quick, decisive and coherent action to avoid deepening crises, and both governments have been praised for their nimble, coherent policy responses to these 'shocks', including government tax and spending decisions. The Key government, however, largely failed to tackle the worsening housing affordability problem that existed in Auckland before the global financial crisis and picked up again soon thereafter. The current government, when it comes to designing longer-term economic policies, such as the recent top income tax rate rise and the housing package, seems to be adopting a series of ad hoc responses without a coherent strategy. Further, on both sets of policies, evidence from officials' assessments confirms that these were progressed unduly rapidly, with a lack of suitable analysis, and against official advice on the most suitable option to deliver on the government's own objectives. Not only could this see outcomes falling substantially short of their many objectives, but serious

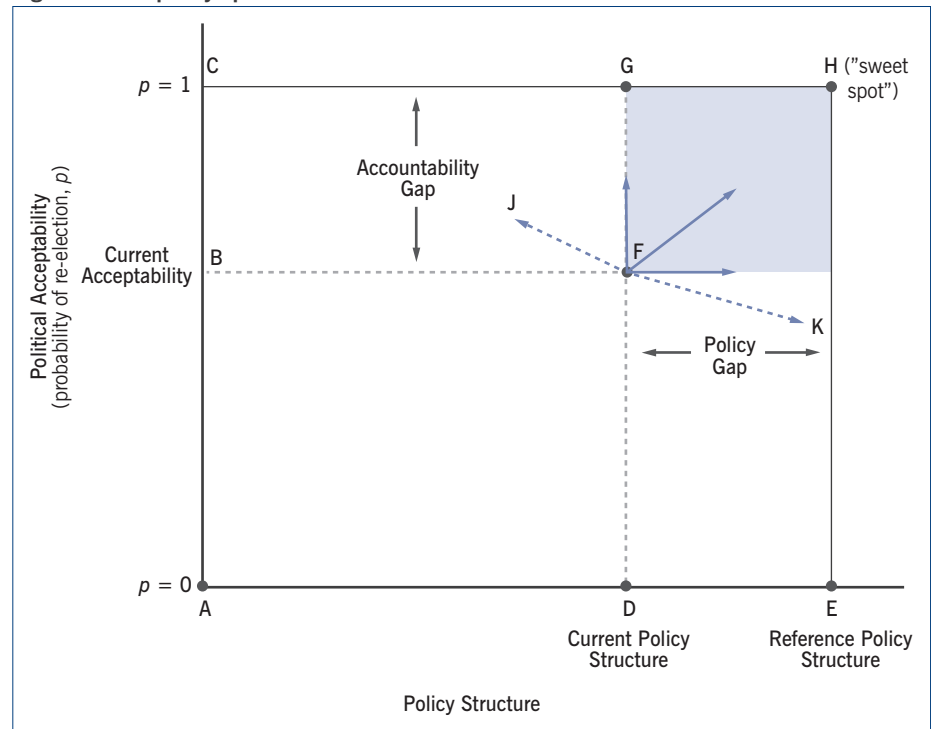
express a policy preference based on limited knowledge of the underlying merits and demerits. As discussed earlier, examples on the left include focusing on a highly redistributive tax policy while denying or ignoring efficiency consequences, or adopting a politically popular redistributive tool when the same outcome could be achieved more efficiently by an alternative.

An example on the political right includes a, usually false, belief that lowering tax rates will lead to higher revenues (because existing, high tax rates put taxpayers on the ‘wrong side’ of the Laffer Curve).¹⁷ Both such cases need testing by rigorous analysis and frank advice, to confront ministers with the consequences of their policy choices, even if they decide subsequently to go ahead. In that case, the more rational or closer-to-ideal economic policy may not be politically achievable, but it is vital that it is part of the policy menu presented as implementable in principle and in practice.

The above points can be illustrated by the simple framework in Figure 1. This depicts a two-dimensional ‘policy space’ to capture policy success according to two characteristics. These are: how close the policy is to an ideal or ‘reference’ policy structure (explained below) on the x-axis; and the policy’s ‘political acceptability’ on the y-axis.¹⁸ This policy space captures the notion that key to a policy’s success is (1) the ability of the policy to deliver fully on its intended (economic and/or social) objectives; and (2) the probability that the policy is adopted politically as ‘official policy’. The latter is proxied here by how far the political decision takers perceive that legislating the policy will affect their probability of re-election.¹⁹

In Figure 1, point F represents the status quo policy stance. This may be less than the politician’s ideal on the line CH, such as at G; for example, where a current government inherits a predecessor’s policy position. Of course, almost no policy is likely to be perceived as *guaranteeing* re-election (on the line CH). The ‘reference policy’ – captured by the line EH – is that which is regarded by advisers as best able to deliver on all its stated objectives. It is this which policy advisers should be striving to achieve. It is, of course, inevitable that an ideal or reference policy will be

Figure 1: The policy space



determined in part by value judgements, such as those involving trade-offs between multiple policy objectives. In this case, policy advisers may need to recognise, and present, a number of possible reference policies – perhaps represented diagrammatically by a wider rectangle, rather than a line, of reference policies around EH (not shown in Figure 1).

Policy advice should seek to move policies adopted from F to a point on EH. The reference policy at H might be regarded as a policy ‘sweet spot’, since it delivers on all its objectives and is highly likely to be legislated politically. In this sense, proposals that shift policy in a north-east direction are likely to be the most successful. However, in devising a menu of policy options it is important that advisers do not ignore policies that achieve a shift south-east from current policies towards a point such as K in Figure 1. This goes a long way towards achieving the economic/social ‘ideal’, even if the current government regards it as politically inferior.

Equally importantly, politicians’ re-election imperative all too readily creates a temptation to propose policies that move towards J in Figure 1, rather than K. These are policies that undermine, rather than enhance, the economic/social objectives or integrity of current policy and should be resisted by advisers. According to one

senior New Zealand public servant: ‘our job is not to tell politicians what they want to hear but what they ought to do. If they disagree with us and insist on doing something we think is stupid, our job is to tell them the least stupid way of doing it.’²⁰ In Figure 1 this might be represented as trying to limit a policy movement leftwards from F, especially when such policies aim solely or primarily to improve electoral popularity.

- 1 A regulatory impact assessment is a document that government agencies are required to produce which summarises an agency’s best advice to its minister and Cabinet on all new policy decisions. For more details see, for example, <https://www.mpi.govt.nz/legal/regulatory-impact-statements/>.
- 2 In fact, Inland Revenue taxable income data for 2019 shows that, excluding taxpayers with zero taxable income, those earning \$1–\$10,000 annually comprise over 16% of taxpayers (see <https://www.ird.govt.nz/about-us/tax-statistics/revenue-refunds/income-distribution>).
- 3 The staggered timing of provisional income tax collection means that these values are quite different across the first three years (\$160m, \$830m, \$540m; m = million) (see Inland Revenue, 2020, p.3).
- 4 For example, with $\alpha = 0.25$, $D = 6.1\%$ when the top rate is 33% but $D/Y = 10.2\%$ when the top rate is 39% – a 68% increase in D/Y . These DWL values (6.1% and 10.2%) can seem quite small losses; however, measured as a proportion of the tax revenues raised, then if $R/Y \approx 0.33$, D increases from 18% to 31% of revenue when the top tax rate is increased.
- 5 The numbers of taxpayers shown on the Inland Revenue website (see note 2) are slightly different from those reported in Inland Revenue (2020); the latter is likely an updated version. However, taxpayer numbers are sufficiently similar that estimates of average taxable income by income band should be only slightly affected at most.
- 6 It might reasonably be assumed that the Inland Revenue (2020) estimate, when both tax rates are increased, includes some behavioural change, such as switches to the corporate tax regime.
- 7 Inland Revenue (2020), however, does not estimate the increased DWL that will likely arise from the higher trust tax

What is Happening to Tax Policy in New Zealand and Is it Sensible?

- rate which will tend to counteract the reduced DWL from improved integrity. In addition, some integrity dimensions will worsen due to the larger (11, previously 5, percentage points) gap between the top personal rate and the corporate tax rate.
- 8 For example, the income caps for new buyers accessing the government's First Home Grants scheme have been increased marginally.
 - 9 This is despite the finance minister, Grant Robertson, saying in a government press release that 'I want to stress that the bright-line test does not and will not apply to the family home' (Arden et al., 2021). Yet, clearly, it does apply to anyone with a single home who rents it briefly. It is unclear whether this also applies to a 'live in' tenant in a family home.
 - 10 For example, in 2017 Kendall (2016) estimated that, over the previous three years, Auckland house prices had risen by 52%, while they increased by only 11% on average over the rest of the country.
 - 11 Examples of conflicting objectives in New Zealand tax policy include seeking to tax all income at a uniform rate across a broad base for fairness or efficiency reasons, while at the same time offering lower tax rates on some types of income (such as portfolio investment income or retirement savings) to encourage such activities.
 - 12 Pejorative references by politicians to 'property speculators' are often used interchangeably with references to those who are 'flipping properties', where investors are alleged to buy property merely to hold it for later resale at a profit. However, such a definition would capture many legitimate small building firms which buy run-down properties, renovate them and then resell at a higher price, perhaps within a year or two. Most such cases seem better described as useful economic activity towards housing improvement than 'speculation'.
 - 13 A problem of lack of analysis and consultation in a short time frame seems to have characterised this housing package more generally. Treasury complained that 'this Regulatory Impact Statement has been produced under extremely tight time constraints without consultation or the benefit of robust data, and accordingly there is a risk that the analysis is incomplete or may miss key interactions' (Treasury, 2021, p.2).
 - 14 There is, of course, an untaxed capital gain of \$400,000 (two-thirds of the \$600,000 price rise) in this case, but since this relates entirely to the period of family home occupancy, it should not be taxed if treated symmetrically with capital gains on other family homes.
 - 15 The Treasury's, rather timid and partial, suggestion is: 'on balance the Treasury's preferred option is an extension of the bright-line period from 5 years to 20 years with no exemption for new builds' (Treasury, 2021). This proposal would produce something close to a capital gains tax on rental housing, still based on transactions and timing (with delayed timing effects), but which leaves all other capital gains untaxed. It does not examine other dimensions of the housing package, noting, on interest deductibility, that 'given time constraints and lack of analysis, the Treasury does not recommend progressing the interest deductibility proposal without further analysis'.
 - 16 Local authority 'development contributions' are levies on new building developments and some building alterations. They aim to contribute to the cost of providing new local amenities, such as roads, water supply, storm/waste water infrastructure, libraries etc.
 - 17 The term refers to an alleged empirical relationship between the marginal tax rate and tax revenue collected, with a hypothesised maximum revenue somewhere between the two extremes of 0% and 100% tax rates, and zero revenue raised at both extremes. How useful the curve is, and where the revenue-maximising rate might be observed, is a matter of some debate in the public finance literature. The curve is associated with the US economist Arthur Laffer, an advisor to US president Ronald Reagan (and more recently Donald Trump) (see Laffer, 2004).
 - 18 This diagram is adapted from a somewhat similar diagram in the 'tax gap' literature (see Hutton, 2017).
 - 19 Clearly, political motivations are likely to be multifaceted in practice, but re-election (or 'electoral popularity') seems likely to be a prominent element in many cases. It serves as a useful proxy here but is not fundamental to the analysis.
 - 20 This sentiment, if not the wording, is sometimes attributed to Henry Lang, the respected New Zealand public servant, and Treasury secretary from 1968 to 1977. If so, it may have been at least partly based on Lang's experience of Prime Minister Robert Muldoon's attitudes and policies. According to Holmes (2007, p.44), following a meeting with Muldoon, Lang wrote in his diary: 'his ignorance was exceeded only by his breathtaking arrogance'.

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Kate C. Prickett and Simon Chapple

Trust in Government and Covid-19 Vaccine Hesitancy

The long-term success of New Zealand's Covid-19 elimination plan and the re-opening of fortress New Zealand rests on high population uptake of the Covid-19 vaccine. Understanding factors that contribute to vaccine hesitancy – and potential inequities in access and uptake – are consequently essential for the efficacy of the national immunisation programme which began rolling out to the general population in July 2021. Prior research on the New Zealand context has documented socio-demographic disparities in Covid-19 vaccine hesitancy (Horizon Research, 2020; Prickett, Habibi and Atatoa Carr, 2021; Thaker, 2021). However, little research has been undertaken to examine how psychosocial elements – such as people's trust in institutions – might be associated with people's vaccine intent and cast some light on the reasons underpinning their intent.

Trust in government may be a particularly salient factor influencing people's vaccine intention. New Zealand's Covid-19 policy response has been hailed as one of the most successful in the world (Lowy

Institute, 2021). Combined with this, New Zealanders' existing and increasingly high levels of trust in the government, including during the Covid-19 crisis (Chapple and Prickett, 2019), suggest that the population

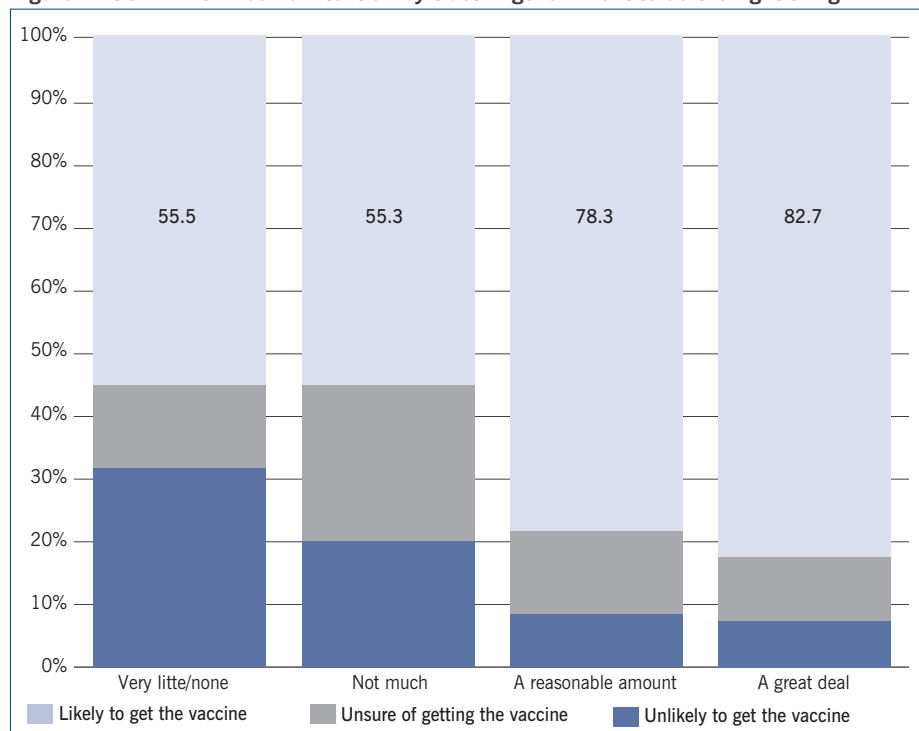
at large should be fairly amenable to information and guidance from the government about the vaccine. Despite this context, misinformation and conspiracy theories around the vaccine are significant features of the landscape (Menon and Thaker, 2020; Sharpe, 2021). This research note asks whether New Zealanders' trust in government is associated with Covid-19 vaccine acceptance or hesitancy, and whether this trust has an impact on the reasons for New Zealanders' vaccine intentions.

Analysis

We use unique data collected in mid-March 2021 – the third wave of the *Life in Lockdown* survey (Prickett et al., 2020). The *Life in Lockdown* survey was first conducted in April 2020. It aimed to understand the economic and social impact of the alert level 4 nationwide lockdown on New Zealanders. Respondents were surveyed again in July 2020 when New Zealand was in alert level 1, and in March 2021. They were asked, among a range of other things, about their willingness to get the Covid-19 vaccine. Respondents reflect a diverse cohort of New Zealanders, who were reached through a large, pre-existing social marketing research sampling frame. The analytical sample for this research note's analysis included 1,284 people

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Figure 1: COVID-19 vaccine intention by trust in government to do the right thing



Note: Predicted estimates from multinomial regression controlling for respondent age, gender, ethnicity, nativity, household income, educational attainment, family structure, work status, and region.

who had not exited the study by the third wave (losing 692 respondents) and who answered questions on vaccine intentions (losing 26 respondents).

At the time of survey, the nationwide roll-out of the Covid-19 immunisation programme was not yet underway. No survey respondents reported having received the vaccine. To gauge vaccine hesitancy, respondents were asked, ‘How likely are you to get vaccinated for the coronavirus (Covid-19) once the vaccine is available to you?’, with response options on a five-point scale ranging from ‘very unlikely’ through to ‘very likely’. Those reporting that they were unlikely to or unsure if they would get the vaccine were asked a follow-up question on the reasons why, from a predetermined list of response options. Those reporting they were likely to get the vaccine were asked in a follow-up question the reasons why, again from a predetermined list of response options.¹ Along with an array of socio-demographic variables, respondents were asked how much trust did they have in the government to do what is right for New Zealand, with response options on a four-point scale which included ‘very little/none’ (population weighted 6.1% of the analytical sample), ‘not much’ (15.9%), ‘a reasonable amount’ (57.3%) and ‘a great deal’ (20.8%).

Multinomial logistic regressions were used to estimate the association between trust in government and vaccine hesitancy, controlling for other factors that might be associated with both trust and vaccine hesitancy, such as gender, age, ethnicity, income and educational attainment. These models were used to construct predicted estimates of vaccine hesitancy at each level of government trust. These predicted estimates are presented in Figure 1.

Trust in government is associated with greater vaccine acceptance

Overall, 71% of the sample said they were somewhat or very likely to get the Covid-19 vaccine once it became available to them. While this figure is in line with other reports using data collected around this time, more recent studies have shown that the proportion willing to be (or who already have been) vaccinated is somewhat higher, at 77% (Ministry of Health, 2021).

In terms of trust in government, it was strongly inversely correlated with vaccine hesitancy (at $p < .001$). More trust in government meant less vaccine hesitancy. For example, among those who said they had very little or no trust in government, 31% said they were somewhat or very unlikely to get the vaccine, 13% said they were unsure, and 56% said they were

somewhat or very likely to get the vaccine (Figure 1). Among those with the highest levels of trust – ‘a great deal’ – only 7% said they were unlikely to get the vaccine, 10% were unsure, and 83% said they were likely to get the vaccine once it became available to them.

Among the vaccine hesitant, those less trusting of the government were more likely to say they were unlikely to get seriously sick from Covid-19 and that the pandemic is being exaggerated

Among those who said they were unlikely to get the vaccine or unsure, the main reasons for being unlikely – worry about unknown future effects of the vaccine and about side effects – were cited at similar rates across the high and low trust groups. One prominent difference between high and low trust in government groups, however, was that low trust groups were far more likely to cite that the chances of them becoming seriously unwell from Covid-19 were low (22% vs 13% among those with high trust) and that they felt the impact of Covid-19 was being greatly exaggerated (18% vs 5%). Similar rates of the high and low trust groups cited that they did not trust vaccines generally (12–13%), suggesting that reasons for not getting the Covid-19 vaccine among those with high versus low trust in government were less about vaccination and more about potential misinformation about the Covid-19 pandemic specifically.

Among those likely to get vaccinated, those more trusting of government were more likely to give prosocial reasons for getting the vaccine

Among those who said they were likely to get vaccinated, high and low government trust groups both reported as the most popular reason for getting the vaccine was stopping themselves from catching Covid-19 or getting very sick from it (73% vs 71%, respectively). The high and low trust groups differed most, however, on reasons to do with protecting the community, with helping to allow their community to get back to normal cited as a reason by 58% of those with high trust in government and 44% of those with low trust, and helping to protect other people from catching Covid-19 cited by 69% of

the high trust group, but just 51% of those with low trust.

Conclusion

Given robust association between trust in government and vaccine hesitancy, even after accounting for differences in the socio-demographic characteristics across high and low trust groups, it is

likely that trust in the government will continue to play a role in supporting New Zealanders' confidence in getting the vaccine, particularly among those most hesitant. On the other hand, it points to a substantial group of people for whom receiving information about the vaccine from the government directly may not be persuasive. Instead, finding other trusted

people or institutions, such as friends, whānau and their health practitioners, to engage with and address their vaccine-related concerns may provide more traction.

¹ Vaccine-related questions came from the UK Office for the National Statistics' Opinions and Lifestyle Survey.

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