



Does reframing urban policy around wellbeing support carbon mitigation?

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POLICY ANALYSIS

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ABSTRACT

New Zealand ('Aotearoa') is a highly urbanised country with one of the first governments in the world to adopt a wellbeing budget framework. That framework, in combination with the architecture for decarbonisation provided by New Zealand's 2019 'Zero Carbon' Act, means there are now institutional and policy incentives in place, and developing incrementally, to combine the pursuit of wellbeing and decarbonisation. These incentives also align with the outcomes highlighted in the United Nations' Sustainable Development Goals (SDGs). This paper considers the way policy and institutional approaches to carbon mitigation are being linked to wellbeing in three interconnected urban, non-agricultural domains responsible for much of New Zealand's carbon emissions: building, urban form and transport. Looking beyond the current Covid-19 recovery process, emerging evidence is presented to ascertain whether the wellbeing-focused policy approach, with its associated attention to co-benefits, is creating a clear institutional refocusing. In addition, other evidence suggests that New Zealanders see health and wellbeing as improving, at the same time as the country is moving towards the net zero carbon emissions target.

POLICY RELEVANCE

In New Zealand, a new emphasis by the government on wellbeing now provides a powerful policy framing. At the same time, attention to the critical issue of climate change is strongly influencing many aspects of public policy. This paper investigates, for three related economic domains—building, urban form and transport—how the new framing is being manifested in institutions and policy. Attention to co-benefits, highlighting elements of wellbeing, appears to be shifting the policy debate away from economic growth towards a richer set of concerns more relevant to an era in which managing environmental, social and health crises (such as Covid-19), decarbonisation, and housing affordability are more prominent. The paper also outlines a new research programme that measures outcomes from a set of major public housing and urban regeneration investments in terms of wellbeing metrics.

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1. INTRODUCTION

New Zealand ('Aotearoa'), like many small nations, is increasingly aware that its way of life, the global economy and the ecosystems underlying it are precarious. It has become clear that the risks and impacts of climate change (Steffen *et al.* 2018) and pressures on biodiversity (UN IPBES 2019) are increasing exponentially and these are strongly connected to economic growth and affluence (Hickel 2020; Wiedmann *et al.* 2020).

This paper sets aside the question of how societies that pursue economic growth collide with ecosystem limits. Such collisions are now highly likely without transformational economic and social reform. In particular, despite various positive international mitigation commitments, such as those of China and the US, the prospects of sufficient global mitigation action to return global carbon emissions to net zero by 2050 as required by Paris are still limited (Climate Action Tracker 2020). Staying below the warming threshold of 1.5°C by meeting the 2030 goal of reducing greenhouse gas (GHG) emissions by 45–50% (below 2010 levels), as suggested by the Intergovernmental Panel on Climate Change (IPCC) (2018), seems optimistic. Globally, the 6–7% per year carbon emissions reductions required (UNEP 2019) to stay within 1.5°C may or may not be compatible with some economic growth, although the reductions could enhance wellbeing over time. But the uncertainties involved in climate policy mean it is difficult for any government to convincingly argue that rapid emission reductions will assuredly improve wellbeing.

The implications of rapid decarbonisation for social and governmental objectives, such as economic growth, are contentious. On the one hand, a few are arguing that incomes and consumption among the well-off need to fall, or at least stabilise (Alexander 2014; Oxfam New Zealand 2020). At the same time, most New Zealanders appear to see the primary goal for government as addressing social objectives (housing, health, jobs, education) while maintaining (or after Covid-19, restoring) economic growth (e.g. Horizon Research 2020). Crucially, the government has positioned itself within the recent debate by framing economic and Covid recovery policies in terms of a goal of sustaining wellbeing rather than economic growth. Some have seen this shift to a wellbeing emphasis as a 'turning point in terms of what guides public policy' (Weijers & Morrison 2018: 4).

The attention to wellbeing has a significant policy history in New Zealand. It goes back at least to the notion of sustainable development, which was resisted by the Treasury and other conservative government agencies, preferring to focus on growth and productivity, from the 1980s to the early 2000s. From 1999, after a Labour coalition came to power, there was an emergence of interest in sustainability (Chapman *et al.* 2007; Clark 2007). However, key agency inertia meant it took several more years before sustainability could be packaged as a 'living standards' framework, terminology which both minimised direct reference to sustainability and kept an implicit link to economic growth as a means to raise living standards (Gleisner *et al.* 2011). For example, sustainability was presented in terms of the 'sustainability of living standards for both present and future generations' (Gleisner *et al.* 2011: 2).

In 2019, the Labour government¹ delivered a flagship wellbeing budget (Robertson 2019) that squarely refocused on wellbeing. Prime Minister Jacinda Ardern, introducing the Wellbeing Budget, stated that:

Growth alone does not lead to a great country. So it's time to focus on those things that do. Our five Wellbeing Budget priorities show how we have broadened our definition of success for our country to one that incorporates not just the health of our finances, but also of our natural resources, people and communities.

(Robertson 2019: 2)

This refocus was not a superficial change. The Budget process required all fiscal proposals to articulate their wellbeing benefits, rather than simply conducting an analysis in terms of growth and productivity. As well as the Budget, other policy initiatives have been framed around wellbeing. For example, the Ministry of Transport's transport outcomes framework begins by stating that 'A quality transport system is crucial for supporting and improving people's wellbeing' (MoT 2018b). But just as with other societal goals, the notion of wellbeing does raise fundamental questions, such as:

whose wellbeing is being assessed? how wellbeing will be measured, and the extent to which all citizens are represented in the conversations [...].

(Weijers & Morrison 2018: 3)

These matters, along with systemic patterns of urban wellbeing (Gatzweiler *et al.* 2017), and any trade-offs between wellbeing and sustainability (OECD 2019; Qasim & Grimes 2021), are important matters for debate.

An ongoing commitment to a wellbeing framing has been underlined by ministers. Finance Minister Grant Robertson stated that, 'The Coalition Government is committed to the wellbeing approach, now and in the future' (Robertson 2019: 3), and:

I believe that this work on wellbeing is likely to be the most significant legacy this Government can leave for future generations.

(Robertson, cited in Weijers & Morrison 2018: 4)

James Shaw, Minister of Statistics, and Associate Minister of Finance, noted that:

GDP [gross domestic product] statistics measure current economic activity in terms of throughput. But they [...] don't take account of the quality of social relationships, economic security and personal safety, health, and longevity.

(Shaw 2018)

In her Speech from the Throne in November 2020, shortly after being re-elected, Prime Minister Ardern stated that:

Wellbeing will continue to be a priority for Government this term with a focus on reducing child poverty, tackling climate change, and addressing housing.

(Ardern 2020)

Covid-19 has presented a salient test of the New Zealand government's emphasis on wellbeing rather than just economic activity. The government has given priority to health and wellbeing in the face of some pressure to ease back on restrictions to encourage economic activity. The health outcome has been a total of 26 Covid-related deaths (as at 30 June 2021), alongside a rapid short-term economic recovery (Baum *et al.* 2021; Reserve Bank of New Zealand 2021). The Treasury is also taking a longer term, wellbeing-oriented post-Covid view, providing:

ongoing advice to the Government about how the evolving global situation might impact New Zealand's economic resilience and the intergenerational wellbeing of New Zealanders, and the options for recovery.²

Stats NZ has increased its focus on monitoring wellbeing, clarifying what it means in practice in New Zealand (Stats NZ 2021). Its monitoring approach builds on longstanding Household Labour Force Survey questions about people's happiness and wellbeing. New Zealanders' overall life satisfaction rating reached 8.0 out of 10 in December 2020 and March 2021, up from 7.7 in 2018 (Carroll 2021; Stats NZ 2021). Measures of wellbeing include overall life satisfaction; life being worthwhile; family wellbeing; financial wellbeing; feeling lonely; trust in the health system; trust in Parliament, the police and media; perception of own health; and happiness and anxiety (Stats NZ 2021).

While the shift towards a wellbeing focus has been widespread across government, some signs of ambivalence have cropped up: traditional strategic hierarchies die hard. In a key paper on climate change policy in 2018, the framing of climate change policy within the *economic* strategy rather than within a broader *wellbeing* strategy was evident:

This [all-of-government climate action framework] is an opportunity for the Government to embed the required changes within the wider economic strategy for New Zealand.

(Office of the Minister for Climate Change 2018)

On the other hand, in 2021 the Budget was again labelled a 'wellbeing' budget, above a subtitle of 'Securing our recovery'. Tellingly, it contained significantly more references to wellbeing than to economic growth.

This paper considers not only ministerial statements, but also some of the key institutional changes and investment initiatives the government is undertaking to embed the wellbeing approach across the New Zealand public sector. The government's wellbeing approach is closely related to the international SDGs paradigm, but places a greater emphasis on social and cultural rather than environmental factors. Nevertheless, the environment is clearly not neglected. First steps to develop wellbeing-oriented, but transformational, climate policies have been taken. For example, the institutional architecture (under the 'Zero Carbon' Act) to introduce carbon budgeting and an independent Climate Change Commission (CCC) is now in place, with the CCC producing its first round of advice to the government in May 2021. The government's 2021 Budget also identified climate change as one of three 'foundational challenges' (Robertson 2021).

The CCC's advice notes that:

Aotearoa will need to ensure [emissions] budgets and policies are ambitious and achievable; the actions we take today will impact on the wellbeing of current and future generations.

(CCC—He Pou a Rangī 2021b: iv)³

But the CCC also puts weight on economic growth:

we are confident in our assessment that Aotearoa can reduce emissions while continuing to grow the economy and improve wellbeing.

(CCC—He Pou a Rangī 2021b: 14)

It remains to be seen how the government will act to balance the improvement of New Zealanders' wellbeing, environmental sustainability (in particular, acting to attain or otherwise the goal identified by the IPCC of halving carbon emissions by 2030), and the desire for economic growth.

As part of its wellbeing-oriented policies, the government has introduced a 'co-benefits' framing. In the housing sector, this has already proved valuable (Howden-Chapman & Chapman 2012), but in areas such as active transport, co-benefits have to date been less widely talked about and accepted. The CCC's 2021 advice, with a major emphasis on co-benefits, may help to change this. It enunciated, among its principles for a low-emissions transition strategy, the need to 'leverage co-benefits' (CCC—He Pou a Rangī 2021b: 72). Below, recent institutional and policy change with regard to building, urban form and transport is examined. This illustrates the use of a co-benefits framing in reorienting public thinking, as the government attempts to shift its policy framing to one based on both wellbeing and decarbonisation.

2. BUILDING SECTOR

New Zealand currently faces a situation in which a surge in net immigration (peaking in April 2020 at the highest level this century),⁴ long-term deficiencies in infrastructure development, a lack of private sector investment in affordable housing, loose monetary conditions and the lack of a wealth tax (with only a limited tax on capital gains) have combined to create a housing crisis. On top of this there are now (reasonable) demands that the sector deliver decarbonisation. On a production basis, building sector emissions make up about 5% of New Zealand's carbon emissions; and on a *consumption* basis, sectoral emissions constitute around 20% of total GHG emissions (ThinkStep Australasia 2018).

The response by the public sector to the call for more energy efficient and environmentally sustainable public housing (Johnson *et al.* 2018) has primarily been to expand house-building activity by Kāinga Ora—Homes and Communities. As the largest Crown Company in New Zealand, Kāinga Ora was established to undertake urban development planning as well as sharply increase the stock of public housing. This largely medium-density housing is being designed to incorporate the World Health Organization's (WHO) housing and health guidelines (WHO 2018), which are beyond the current New Zealand building code, and are promoted as transit-oriented developments. However, it takes time to upgrade underground infrastructure such as sewerage and water and ramp up new housing delivery nationwide.

Supporting the transition to a low-emissions economy, building and related energy innovations can reduce capital and operating costs and thereby reduce residential energy poverty, so that an estimated quarter of New Zealand households do not have to spend a disproportionate amount of their disposable household income on energy (Howden-Chapman *et al.* 2012). Improving building standards can also reduce carbon emissions, through regulated energy efficiency measures, along with increasing the capacity of existing buildings, both residential and commercial, to be net generators of electricity (Grant *et al.* 2021). The CCC has underlined these co-benefits (CCC—He Pou a Rangī 2021b: e.g. ch. 8).

The 2018 WHO Housing and Health Guidelines highlighted the health and wellbeing benefits of raising the standards in residential buildings. Although the New Zealand Building Code aims to ensure new buildings are ‘safe, healthy and durable for everyone who may use them’, these standards have fallen behind international best practice. There has also been no systematic monitoring of the residential indoor environment to determine how effectively the current Building Code has been implemented; and the Building Code has acted as a brake on local government seeking to raise environmental performance of buildings. In 2021, Healthy Homes Standards, loosely based on the WHO guidelines, came into effect to improve the quality of existing *rental* housing in New Zealand (Tenancy Services 2019).

A new research programme is described in section 5. It is designed to explore some of these outstanding research issues, including investigating how new building designs can seek to improve wellbeing while reducing carbon emissions.

3. URBAN FORM

Attention to urban form is relatively new in New Zealand, where car ownership is the Organisation for Economic Co-operation and Development’s (OECD) highest (OECD 2017). It is only with the growing awareness of climate change, further rapid expansion of larger urban areas (especially Auckland) and a sharp increase in house prices that public preferences and urban investment patterns, in both residential construction and infrastructure, have begun to adapt, with change accelerating in the last five years (Howden-Chapman *et al.* 2017).

The New Zealand Productivity Commission’s report on reducing carbon emissions (NZPC 2018) conceded that changes in urban form might be necessary even in the presence of a higher carbon price and the widespread take-up of electric vehicles. This concession was a significant shift and reflected an extended debate (Chapman & Dodge 2016), together with greater attention to the international literature (e.g. Creutzig 2016; Hickman *et al.* 2014; ITF 2019). Second, a Labour government ‘urban agenda’ adopted integration of transport and urban form as an important theme (OMHUD 2018). Although the agenda’s main objective was to improve housing affordability, and it supported both urban expansion as well as intensification, it linked carbon mitigation, quality built environments and wellbeing.

A third major shift was the introduction of the 2020 National Policy Statement (NPS) on Urban Development, under the country’s planning legislation, the Resource Management Act 1991. The essence of this is to encourage cities to intensify at transport nodes and along public transport corridors, making better use of land to reduce housing costs and allowing higher density urban form. This was influenced by the experience of successful densification in Wellington compared with Auckland. Census 2018 data showed that commute mode choices of Wellingtonians were much more sustainable than those of Aucklanders: 58% of commute mode choices were for cars/vans in Wellington, and 74% in Auckland. Supporting this, a 2020 OECD report underlined that, in New Zealand conditions, urban densification can generate social benefit by curbing the growth in the cost of housing (OECD 2020). This is consistent with other work linking urban form to health benefits and hence wellbeing (e.g. Zapata-Diomedes *et al.* 2019).

Most recently, the recommendations of the CCC give support for the role of urban form. It stated that:

average household travel distance per person can be reduced [...] for example through more compact urban form and encouraging remote working.

(CCC—He Pou a Rangī 2021a: 58)

The suggested scale of this contribution is, however, less transformational than it needs to be: others have argued for bigger changes in urban living involving less car dependence and traffic congestion (Chapman & Howden-Chapman 2020; Whāu Local Board 2018).

The CCC sees the co-benefits of emissions reduction as important:

Benefits to health, productivity and incomes all tip the balance further in favour of acting to reduce emissions.

(CCC—He Pou a Rangī 2021a: 86)

It also advocates that the government:

improve the evidence base and approach for factoring in co-benefits into climate policy, planning and investment decisions, including to health, transport accessibility, the environment.

(CCC—He Pou a Rangī 2021a: 103)

In short, there is now recognition of the co-benefits of changes in urban form, and the limitations of other policy instruments, the Emissions Trading System (ETS) in particular.

4. TRANSPORT

New Zealand's transport sector has performed very poorly in terms of emission reductions. The sector's carbon emissions have increased over 100% between 1990 and 2018 (MfE 2020), a period when it was clear that emissions were increasingly damaging and had to be rapidly reduced, but public indifference and business interests effectively blocked policy action. The introduction of an emissions trading scheme (New Zealand's ETS) from 2008 has had a close-to-zero effect on transport emissions, mainly because of the low level of the ETS carbon price, arising from policy decisions to make available imported credits, the free allocation of credits to existing industries and the supply of credits from forestry. On a production basis, transport emissions make up about 47% of New Zealand's carbon emissions (MfE 2020: 9); and on a *consumption* basis, transport emissions constitute around 44% of total GHG emissions (ThinkStep Australasia 2018). Fuel prices in New Zealand are low to middling by OECD standards,⁵ and vehicle efficiency standards are essentially unregulated.

To address these deficiencies, new initiatives are being introduced from 2022, including a 'clean car' import standard containing a 2025 target of 105 gCO₂/km applying to both new and used vehicle imports (New Zealand does not produce any cars); a new biofuel mandate across the sector; and some funding to help councils fully decarbonise the public transport bus fleet by 2035 (Ardern 2021). The clear car standard reflects a realisation that currently imported light vehicles are among the least fuel efficient, and the most carbon intensive, of any OECD country. For example, cars and SUVs in New Zealand average 161 g/km, compared with 105 g/km in Europe (MoT 2021a), suggesting ample low-cost potential to reduce transport emissions. The rate of progress envisaged for imported vehicles—a reduction of almost 40% in average light vehicle emissions per km in five years—is consistent with attaining New Zealand's carbon target of net zero by 2050.

However, increasing transport sector efficiency (lowering gCO₂/km) is unlikely to be enough, as the Jevons paradox (enhancing efficiency is offset by energy consumption) has illustrated over the last century and more. Such an outcome could be found if switching to electric vehicles causes more driving or less public and active transport to be used, reducing the carbon benefits of the switch (Daramy-Williams *et al.* 2019). Comprehensive and integrated transport sector policies are therefore necessary, and these need to extend to urban form, an underlying driver of vehicle use. It is evident that key features of consumer capitalism impede the decoupling of carbon emissions from economic activity. Alexander (2014: n.p.), for example, notes that:

social and structural constraints [...] make it much more difficult than it needs to be to adopt a lifestyle of sustainable consumption. For example, it is hard to drive less in the absence of safe bike lanes and good public transport.

The car lobby's resistance to investment in bike lanes has been prominent, and funding of more sustainable public transport has also been slow to gather momentum.

Road transport-oriented conservative political doctrine has hindered transport policy (Chapman *et al.* 2017), but progress is now incrementally occurring with recent policies and funding measures—including the 2021 package mentioned above and the Government Policy Statement on Land Transport in 2018 (MoT 2018a). Recently the CCC recommended in its February 2021 report that nearly all vehicles entering the country's fleet would need to be electric by 2035 (CCC—He Pou a Rangī 2021a: 50). It remains to be seen what social, economic and other factors the government takes into account in deciding about this recommendation.

Most recently, the Ministry of Transport has produced a consultation document on decarbonising transport. Its tone is very different from that seen in the past. For example, it states that:

private motorised vehicles [...] produce the majority of our transport emissions, and can be detrimental to people's wellbeing by contributing to air/noise pollution, and poor quality urban environments. Car-oriented urban expansion/dispersal also leads to increased traffic, congestion, journey times, and travel costs.

(MoT 2021b: 45)

Accordingly, it argues that the transport system should be designed to reduce emissions while achieving a wide range of co-benefits and improving wellbeing.

5. CURRENT RESEARCH ON BUILDINGS, URBAN FORM AND TRANSPORT

The built environment, including transport systems, is widely accepted as offering a critical 'wedge' for emission reductions (Creutzig *et al.* 2015). The location, type and configuration of buildings strongly influence transport decisions. Buildings, as well as infrastructure such as roads and other network assets, are long-lived and lock in carbon emissions (Ürge-Vorsatz & Chapman 2021). The interaction between buildings, infrastructure and urban form has been highlighted in United Nations SDG 3, SDG 7 and SDG 13. Forward-looking policies in this area, which build on a systems approach, can generate major co-benefits to health and wellbeing (The Global Commission on the Economy and Climate 2018).

A cross-disciplinary team involving a consortium of researchers coordinated through the New Zealand Centre for Sustainable Cities is researching the comparative quality of six public housing and urban regeneration developments, which are essentially natural experiments (Howden-Chapman *et al.* 2020). As well as building features (indoor temperature, air quality, *etc.*), quality, location, accessibility and orientation are also being examined for effects on occupants' wellbeing. Determinants of emissions, *e.g.* where developments are located in relation to transport facilities and other amenities, are being investigated.

This research team has been funded for a five-year programme: Public Housing & Urban Regeneration—Maximising Wellbeing.⁶ As well as the physical factors outlined above, the research will examine the impacts of different governance and financial arrangements on the quality of the six different public housing developments, and how this affects the communities' and tenants' wellbeing, together with housing occupants' travel patterns and carbon emissions. Research data will draw on integrated data infrastructure (IDI), a collection of linked whole-population administrative data sources from government agencies, surveys and the census. The IDI includes independent measures of tenants' educational achievement, employment, benefit trajectories, and mental and physical health, and the data will sit alongside independent measures of transport access and sample survey data on travel patterns. All data are de-identified and linked by Stats NZ, allowing the combining of data from various sources without breaking any individual's

confidentiality. Both self-reported and independent IDI data are available for tenants before and after they move into their new/remediated public housing.

The programme will increase understanding of which public housing initiatives best foster wellbeing: How much do energy efficient, well-located houses embedded in socially inclusive neighbourhoods matter? Which developments best contribute to sustainable urban regeneration, including carbon emissions reductions? The research further aims to highlight the legal and policy avenues for any institutional change needed to improve public and community housing. High-quality housing, especially for vulnerable individuals, can likely support resilient and supportive communities. The aim is to identify the barriers to, as well as the collaborations supporting, positive shared outcomes.

6. CONCLUSIONS

Evidence was examined to ascertain whether the wellbeing-focused policy approach, adopted by the New Zealand government, with its associated attention to co-benefits, is creating a marked institutional refocusing around wellbeing at the same time as the country moves towards the net zero carbon emission target.

The 2019 Wellbeing Budget was a strong indicator of a refocusing in this direction, and has been followed by tangible institutional and policy changes in building, urban form and transport. Strategic documents from various government agencies point to a clear shift, a critical step towards desired outcomes. The independent Climate Change Commission (CCC) has also oriented its recommendations around wellbeing to a considerable extent, while not sacrificing their primary orientation to decarbonisation. A significant research programme on public housing has been launched, designed to undertake a robust evaluation of natural policy experiments in housing and urban regeneration. It has a strong emphasis on wellbeing and will provide empirical evidence around this goal.

Reorienting any narrative informing and reflecting society's goals is a major task. While there are powerful commercial interests attached to the established way of thinking, and resistance from elements of the public in areas such as transport and urban planning, the new wellbeing framing is also powerful. There are promising signs that the new framing, having been strongly championed by the government, is being reflected in new thinking at existing and new organisations such as the CCC. Emerging evidence from the building, urban form and transport sectors shows that the framing also supports the critical task of reducing carbon emissions.

NOTES

- 1 After three years (October 2017–November 2020) in coalition with New Zealand First and the Green Party, the Labour Party was re-elected in 2020 with a significant majority in Parliament. Despite its outright majority, Labour has chosen to work with the Greens through a Cooperation Agreement.
- 2 See <https://www.treasury.govt.nz/information-and-services/nz-economy/covid-19-economic-response>.
- 3 In addition, the CCC notes that, 'Intergenerational equity is reflected in He Ara Waiora, part of the Government's wellbeing framework, through the dimensions of wellbeing ("ends") and the *tikanga* ("means") both of which are essential to intergenerational wellbeing' (CCC—He Pou a Rangi, 2021a: 80).
- 4 See <https://www.stats.govt.nz/information-releases/international-migration-april-2021-infoshare-tables>.
- 5 See <https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/weekly-fuel-price-monitoring/>.
- 6 See <http://sustainablecities.org.nz/2021/06/public-housing-and-urban-regeneration-maximising-wellbeing-2/>.

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COMPETING INTERESTS

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REFERENCES

- Alexander, S.** (2014). Life in a 'degrowth' economy, and why you might actually enjoy it. *The Conversation*, 2 October. <https://theconversation.com/life-in-a-degrowth-economy-and-why-you-might-actually-enjoy-it-32224>
- Ardern, J.** (2020). *Speech from the throne*. The Beehive, New Zealand Government. <https://www.beehive.govt.nz/speech/speech-throne-3>
- Ardern, J.** (2021). Government moves on climate promises [Press release]. The Beehive, New Zealand Government. <https://www.beehive.govt.nz/release/government-moves-climate-promises>
- Baum, F., Freeman, T., Musolino, C., Abramovitz, M., De Ceukelaire, W., Flavel, J., ... Huong, N. T.** (2021). Explaining covid-19 performance: what factors might predict national responses? *BMJ*, 372. DOI: <https://doi.org/10.1136/bmj.n91>
- Carroll, M.** (2021). Covid-19 hasn't dampened our satisfaction with life, Stats NZ data shows. *Dominion Post*. <https://www.stuff.co.nz/business/industries/125595994/covid19-hasnt-dampened-our-satisfaction-with-life-stats-nz-data-shows>
- CCC—He Pou a Rangī.** (2021a). *2021 Draft advice for consultation*. New Zealand Government. <https://www.climatecommission.govt.nz/get-involved/our-advice-and-evidence/>
- CCC—He Pou a Rangī.** (2021b). *Inaia tonu nei: A low emissions future for Aotearoa*. New Zealand Government. <https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/inaia-tonu-nei-a-low-emissions-future-for-aotearoa/>
- Chapman, R., & Dodge, N.** (2016). *Urban intensification and policies to reduce GHG emissions: An analysis of the Productivity Commission's argument: Submission to the New Zealand Productivity Commission on the 'Better Urban Planning Draft Report'*. New Zealand Centre for Sustainable Cities. <http://sustainablecities.org.nz/wp-content/uploads/Chapman-Dodge-3Oct16-submission-to-PC-on-urban-form-and-emissions.pdf>
- Chapman, R., Frame, B., & Salmon, G.** (2007). Reinventing the New Zealand Treasury as a Ministry of Sustainable Development. *Paper presented at the ANZSEE conference*, Noosa, QLD, Australia. <https://anzsee.org.au/conferences-events/past-anzsee-conferences/2007-conference/2007-conference-papers/>
- Chapman, R., & Howden-Chapman, P.** (2020). *Transforming transport and cities in NZ: A note for the Climate Change Commission's engagements on transport and urban form*. New Zealand Centre for Sustainable Cities. <http://sustainablecities.org.nz/2020/09/submission-to-climate-change-commission-on-transforming-transport-cities-in-nz/>
- Chapman, R., Howden-Chapman, P., Whitwell, K., & Thomas, A.** (2017). Towards zero carbon? Constrained policy action in two New Zealand cities. *Australasian Journal of Environmental Management*, 24(2), 97–116. DOI: <https://doi.org/10.1080/14486563.2017.1309696>
- Clark, H.** (2007). *Prime Minister's Statement to Parliament (Rt Hon Helen Clark)*. The Beehive, New Zealand Government. www.beehive.govt.nz/Print/PrintDocument.aspx?DocumentID=28357

- Climate Action Tracker.** (2020). *Paris Agreement turning point*. Climate Action Tracker. https://climateactiontracker.org/documents/829/CAT_2020-12-01_Briefing_GlobalUpdate_Paris5Years_Dec2020.pdf
- Creutzig, F.** (2016). Evolving narratives of low-carbon futures in transportation. *Transport Reviews*, 36(3), 341–360. DOI: <https://doi.org/10.1080/01441647.2015.1079277>
- Creutzig, F., Baiocchi, G., Bierkandt, R., Pichler, P.-P., & Seto, K. C.** (2015). Global typology of urban energy use and potentials for an urbanization mitigation wedge. *Proceedings of the National Academy of Sciences, USA*, 112(20), 6283–6288. DOI: <https://doi.org/10.1073/pnas.1315545112>
- Daramy-Williams, E., Anable, J., & Grant-Muller, S.** (2019). A systematic review of the evidence on plug-in electric vehicle user experience. *Transportation Research Part D: Transport and Environment*, 71, 22–36. DOI: <https://doi.org/10.1016/j.trd.2019.01.008>
- Gatzweiler, F. W., Zhu, Y.-G., Roux, A. V. D., Capon, A., Donnelly, C., Salem, G., ... Boufford, J. I.** (2017). *Advancing health and wellbeing in the changing urban environment*. Springer. DOI: <https://doi.org/10.1007/978-981-10-3364-3>
- Gleisner, B., Llewellyn-Fowler, M., & McAlister, F.** (2011). *Working towards higher living standards for New Zealanders*. The Treasury, New Zealand Government. <http://www.treasury.govt.nz/publications/research-policy/tp/higherlivingstandards>
- Grant, L., Viggers, H., & Howden-Chapman, P.** (Eds.). (2021). *Improving buildings, cutting carbon*. Steele Roberts.
- Hickel, J.** (2020). *Less is more*. William Heinemann.
- Hickman, R., Austin, P., & Banister, D.** (2014). Hyperautomobility and governmentality in Auckland. *Journal of Environmental Policy & Planning*, 16(3), 419–435. DOI: <https://doi.org/10.1080/1523908X.2014.954074>
- Horizon Research.** (2020). *Health the top factor driving New Zealanders' party vote choices*. Horizon Research. <https://www.horizonpoll.co.nz/page/599/health-the-?gtid=5E9DB85E-E44F-49C2-9BAA-4CCCC6C2329D>
- Howden-Chapman, P., & Chapman, R.** (2012). Health co-benefits from housing-related policies. *Current Opinion in Environmental Sustainability*, 4(4), 414–419. https://www.researchgate.net/publication/257722027_Health_co-benefits_from_housing-related_policies. DOI: <https://doi.org/10.1016/j.cosust.2012.08.010>
- Howden-Chapman, P., Early, L., & Ombler, J.** (2017). *Cities in New Zealand: Preferences, patterns and possibilities*. Steele Roberts Aotearoa.
- Howden-Chapman, P., Keall, M., Whitwell, K., & Chapman, R.** (2020). Evaluating natural experiments to measure the co-benefits of urban policy interventions to reduce carbon emissions in New Zealand. *Science of the Total Environment*, 700, 134408. <https://www.sciencedirect.com/science/article/pii/S0048969719343992>. DOI: <https://doi.org/10.1016/j.scitotenv.2019.134408>
- Howden-Chapman, P., Viggers, H., Chapman, R., O'Sullivan, K., Telfar Barnard, L., & Lloyd, B.** (2012). Tackling cold housing and fuel poverty in New Zealand: A review of policies, research, and health impacts. *Energy Policy*, 49, 134–142. DOI: <https://doi.org/10.1016/j.enpol.2011.09.044>
- IPCC.** (2018). *Global warming of 1.5°C: An IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. Intergovernmental Panel on Climate Change (IPCC). <http://www.ipcc.ch/report/sr15/>
- ITF.** (2019). *ITF transport outlook 2019*. International Transport Forum (ITF). DOI: https://doi.org/10.1787/transp_outlook-en-2019-en
- Johnson, A., Howden-Chapman, P., & Eaquib, S.** (2018). *A stocktake of New Zealand's housing—February 2018*. The Beehive, New Zealand Government. <https://www.beehive.govt.nz/sites/default/files/2018-02/A%20Stocktake%20of%20New%20Zealand%27s%20Housing.pdf>
- MfE.** (2020). *New Zealand's greenhouse gas inventory 1990–2018, Volume 1*. Ministry for the Environment (MfE). <https://www.mfe.govt.nz/publications/climate-change/new-zealands-greenhouse-gas-inventory-1990-2018>
- MoT.** (2018a). *Government policy statement on land transport 2018/19–2027/28*. Ministry of Transport (MoT). <https://www.transport.govt.nz/assets/Uploads/Our-Work/Documents/Government-Policy-Statement-on-land-transport-2018.pdf>
- MoT.** (2018b). *Transport outcomes framework*. Ministry of Transport (MoT). <https://www.transport.govt.nz/assets/Import/Uploads/Our-Work/Documents/0e073f2af0/Transport-outcomes-framework.pdf>
- MoT.** (2021a). *Clean car import standard explainer*. Ministry of Transport (MoT)/The Beehive, New Zealand Government. https://www.beehive.govt.nz/sites/default/files/2021-01/Clean%20Car%20Import%20Standard%20Explainer_0.pdf
- MoT.** (2021b). *Hikina te Kohupara—Kia mauri ora ai te iwi: Transport emissions: Pathways to net zero by 2050*. Ministry of Transport (MoT). <https://www.transport.govt.nz/assets/Uploads/Discussion/Transport-EmissionsHikinateKohuparaDiscussionDoc.pdf>

- NZPC.** (2018). *Low-emissions economy*. New Zealand Productivity Commission (NZPC). https://www.productivity.govt.nz/assets/Documents/lowemissions/4e01d69a83/Productivity-Commission_Low-emissions-economy_Final-Report_FINAL_2.pdf
- OECD.** (2017). *OECD environmental performance reviews: New Zealand, 2017*. Organisation for Economic Co-operation and Development (OECD). <http://www.oecd.org/newzealand/oecd-environmental-performance-reviews-new-zealand-2017-9789264268203-en.htm>. DOI: <https://doi.org/10.1787/9789264268203-en>
- OECD.** (2019). *Accelerating climate action: Refocusing policies through a well-being lens. Highlights*. Organisation for Economic Co-operation and Development (OECD). <https://www.oecd.org/environment/cc/Highlights-Accelerating-Climate-Action-Refocusing-Policies-through-a-Well-being-Lens.pdf>
- OECD.** (2020). *Decarbonising urban mobility with land use and transport policies: The case of Auckland, New Zealand*. Organisation for Economic Co-operation and Development (OECD). DOI: <https://doi.org/10.1787/095848a3-en>
- Office of the Minister for Climate Change.** (2018). *Framework for climate change policy and key upcoming decisions (paper for Cabinet Environment, Energy and Climate Committee)*. Office of the Minister for Climate Change, Ministry for the Environment (MfE). <https://www.mfe.govt.nz/sites/default/files/media/Legislation/Cabinet%20paper/framework-for-climate-change-policy-and-key-upcoming-decisions.pdf>
- OMHUD.** (2018). *Urban growth agenda: Proposed approach*. Office of the Minister of Housing and Urban Development (OMHUD). <https://www.mbie.govt.nz/info-services/housing-property/urban-growth-agenda/document-and-image-library/urban-growth-agenda-cabinet-paper.PDF>
- Oxfam New Zealand.** (2020). *Confronting carbon inequality* [Press release]. Oxfam New Zealand. <https://www.oxfam.org/en/research/confronting-carbon-inequality>
- Qasim, M., & Grimes, A.** (2021). Sustainability and wellbeing: The dynamic relationship between subjective wellbeing and sustainability indicators. *Environment and Development Economics*. DOI: <https://doi.org/10.1017/S1355770X20000509>
- Reserve Bank of New Zealand.** (2021). *Monetary policy statement, May 2021*. Reserve Bank of New Zealand. <https://www.rbnz.govt.nz/-/media/ReserveBank/Files/Publications/Monetary%20policy%20statements/2021/mpsmay21.pdf?revision=40300a49-908c-49bc-8c22-f8289db90933>
- Robertson, G.** (2019). *Minister of Finance Wellbeing Budget speech*. New Zealand Government. https://www.parliament.nz/en/pb/hansard-debates/rhr/combined/HansDeb_20190530_20190530_08
- Robertson, G.** (2021). *Wellbeing Budget 2021: Securing our recovery. Budget speech*. New Zealand Government. <https://www.treasury.govt.nz/sites/default/files/2021-05/b21-speech.pdf>
- Shaw, J. H.** (2018). *Wellbeing's role in government policy*. The Beehive, New Zealand Government. <https://www.beehive.govt.nz/speech/wellbeings-role-government-policy>
- Stats NZ.** (2021). *Wellbeing statistics: A year in review (June 2020 to March 2021 quarter)*. Stats NZ. <https://www.stats.govt.nz/reports/wellbeing-statistics-a-year-in-review-june-2020-to-march-2021-quarter>
- Steffen, W., Rockström, J., Richardson, K., Lenton, T. M., Folke, C., Liverman, D., ... Crucifix, M.** (2018). Trajectories of the Earth system in the Anthropocene. *Proceedings of the National Academy of Sciences, USA*, 115(33), 8252–8259. DOI: <https://doi.org/10.1073/pnas.1810141115>
- Tenancy Services.** (2019). *Healthy Homes Standards announced* [Press release]. Tenancy Services, New Zealand Government. <https://www.tenancy.govt.nz/about-tenancy-services/news/healthy-homes-standards-announced/>
- The Global Commission on the Economy and Climate.** (2018). *Unlocking the inclusive growth story of the 21st century: Accelerating climate action in urgent times report*. The Global Commission on the Economy and Climate. www.newclimateeconomy.report
- ThinkStep Australasia.** (2018). *The carbon footprint of New Zealand's built environment: Hotspot or not?* ThinkStep Australasia. <https://www.thinkstep-anz.com/assets/Whitepapers/The-carbon-footprint-of-NZ-built-environment.pdf>
- UN IPBES.** (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). https://www.dropbox.com/sh/yd8l2v0u4jqtp3/AACpraYjOYWpTxAfV5H-2vrKa/1%20Global%20Assessment%20Summary%20for%20Policymakers?dl=0&preview=Summary+for+Policymakers+IPBES+Global+Assessment.pdf&subfolder_nav_tracking=1
- UNEP.** (2019). *Emissions gap report 2019*. United Nations Environment Programme (UNEP). <https://www.unenvironment.org/resources/emissions-gap-report-2019>
- Ürge-Vorsatz, D., & Chapman, R.** (2021). 1.5°C of global warming: Can we still get there? Insights from the urban development sector. In L. Grant, H. Viggers, & P. Howden-Chapman (Eds.), *Improving buildings, cutting carbon* (ch. 2). Steele Roberts.

- Weijers, D., & Morrison, P. S.** (2018). Wellbeing and public policy: Can New Zealand be a leading light for the 'wellbeing approach'? *Policy Quarterly*, 14(4). https://www.victoria.ac.nz/_data/assets/pdf_file/0008/1713626/Weijers_Morrison.pdf. DOI: <https://doi.org/10.26686/pq.v14i4.5144>
- Whau Local Board.** (2018). *Becoming a low carbon community: An action plan*. Whau Local Board. <https://www.aucklandcouncil.govt.nz/about-auckland-council/how-auckland-council-works/local-boards/all-local-boards/whau-local-board/Documents/whau-becoming-low-carbon-community.pdf>
- WHO.** (2018). *Housing and health guidelines*. World Health Organization (WHO). <https://apps.who.int/iris/bitstream/handle/10665/276001/9789241550376-eng.pdf?sequence=1&isAllowed=y>
- Wiedmann, T., Lenzen, M., Keyßer, L. T., & Steinberger, J. K.** (2020). Scientists' warning on affluence. *Nature Communications*, 11(1). DOI: <https://doi.org/10.1038/s41467-020-16941-y>
- Zapata-Diomedí, B., Giles-Corti, B., Veerman, J., & Gunn, L.** (2019). Physical activity-related health and economic benefits of building walkable neighbourhoods: A modelled comparison between brownfield and greenfield developments. *International Journal of Behavioral Nutrition and Physical Activity*, 16, 1–12. DOI: <https://doi.org/10.1186/s12966-019-0775-8>

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