The UK Climate Change Act an act to follow?

Abstract

The New Zealand government recently announced an intention to make the country carbon neutral by 2050. Interest has been expressed in using the United Kingdom's Climate Change Act 2008 as a model to achieve this goal. However, more needs to be done to critically review the UK legislation's applicability to the New Zealand context. This article identifies some of the issues emerging from a ten-year review of the UK act. It is hoped that close consideration of these issues will inform New Zealand policy and legislative development. **Keywords** UK Climate Change Act, Zero Carbon Bill, Paris Agreement,

mitigation, adaptation, policy development

Complex global problem. Nations need to simultaneously address current impacts and reduce the risk of future impacts through aggressive mitigation over short time frames. To

contain global temperatures well below the dangerous 2°C threshold and pursue all efforts to limit the temperature increase to 1.5°C, the 2015 Paris Agreement requires national pledges for carbon reduction. However, the United Nations Environment

Programme has found that the gap between national reductions needed and national pledges made is 'alarmingly high' (UN Environment, 2017). Pledges cover only one-third of what is needed to meet the Paris Agreement's goal. Furthermore, the time frames are very short. The gap must be closed by implementation of more ambitious pledges by 2030. Achieving this target requires more ambitious pledges to be made by 2020. In response, the New Zealand government intends to create new legislation to achieve a net zero emissions target by 2050 (Mathiesen, 2017). There is interest in using the design of the United Kingdom's Climate Change Act 2008 as a model. However, much has changed in the intervening ten years and New Zealand must think carefully about the design of its legislation. The outcomes must be fit for purpose in terms both of international realities and of the New Zealand domestic context

This article outlines some of the issues New Zealand should consider when designing its proposed Zero Carbon Act. It draws upon a ten-year review of the UK

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Climate Change Act 2008 recently published by the Grantham Research Institute on Climate Change and the Environment (Fankhauser, Averchenkova and Finnegan, 2018), and discussions with Grantham Research Institute and other policy experts. It also uses selected literature critiquing the Climate Change Act. It is not based on exhaustive analysis of available research. Given that policy development may proceed with some pace, due to our short electoral cycles, it is important to put these issues into the public domain as promptly as possible.¹ In this regard, recent indications of emerging bipartisan support from the National Party may (not necessarily) expedite the policy and legislative process (Bridges, 2018).

Overview of the UK Climate Change Act 2008

The Climate Change Act adopts a longterm carbon target of an 80% reduction in net national emissions from 1990 levels by 2050 (s1). Net emissions are the sum of all gross national emissions less the amount of carbon removed from the atmosphere, through sinks such as forests. While this target was set before the Paris Agreement, it is still relatively ambitious. Many national pledges under the Paris Agreement use 2005 as a relative benchmark, which requires less emissions cutting than a 1990 target. It is also significant for being clearly framed as a legal duty upon the secretary of state. Amendment of the 2050 target is possible, but only through parliamentary assent, supported by 'significant developments' in current scientific understanding (s2).

To achieve this target, the act provides for carbon 'budgets' (or interim targets) every five years. These budgets have been described as 'stepping stones' towards the 2050 target, as they set a (theoretically) achievable progression of emissions reduction in place (Parliamentary Commissioner for the Environment, 2017). These are set in law by the secretary of state 12 years ahead (ss 4 and 34). This progressive budget setting was thought to achieve a good balance of predictability - so industries were prepared in advance for the need to change - and flexibility (Weeks, 2017). To ensure budgets remain on track to be met, the government must report to Parliament on proposals and

policies to achieve present and future budgets. If a budget is not met by its deadline, the government must explain to Parliament why and how this will be rectified (s19). This has not yet been necessary, as the first two budgets were comfortably met, and the country is currently on track to meet its third, 2018–22 budget (Committee on Climate Change, 2017).

The act also established the independent Committee on Climate Change to provide expert advice on setting budgets and strategies to achieve them (ss 33–5). A chairman and between five and eight members make up the Committee on Climate Change, appointed by national authorities and representative of a range of experience and knowledge relevant to on preparing for climate change, allowing for more localised responses to climate change impacts (s64).

This model has enjoyed considerable success up to the present day, making it highly regarded. So far, five budgets have been set. Two budgets have been met and even exceeded, largely through converting the UK's energy generation from predominantly coal burning to cleaner sources. The UK is also on track to meet its third (2018–22) budget.

At the time of enactment, the Climate Change Act enjoyed bipartisan support. After the 2005 election, Friends of the Earth conducted the Big Ask campaign, which lobbied for greater climate change laws in the UK, with significant public buy-in. This

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establishing a low-emissions economy (schedule 1). The committee's main functions are to advise the secretary of state of the level of the next carbon budget and how to meet it, and to report on current progress in meeting present and future targets (ss 34 and 36). It has no decisionmaking role but its monitoring and public progress reports do provide some accountability to government efforts.

The act also covers national law on climate change adaptation, or preparing for the impacts of climate change such as sea level rise and changes in precipitation patterns. However, this has more limited scope than its provisions for emissions reduction. The government must assess local climate change risk and develop proposals and policies within an adaptation programme in response to this risk (ss 56 and 58). The Committee on Climate Change also plays an advisory role and monitors progress made in achieving the proposals and policies within each programme (ss 57 and 59). Finally, the act permits government to issue advice to other devolved authorities inspired competition between the Labour government and their Conservative opponents over who would champion the climate change cause globally. The UK hosted the 2005 G8 summit, giving Prime Minister Tony Blair the opportunity to elevate the priority given to climate change. The 2006 Stern Review also had global influence, concluding that inaction on climate change would be far costlier to economies than acting to mitigate now (Stern, 2006). These events coincided with a strong economy (which is generally more favourable for environmental policy) and efforts to develop bipartisan support. Many have since speculated that without this unique political environment, the Climate Change Act would never have passed. Today it is seen as an exceptional model of climate change legislation, which some countries, such as Mexico and Sweden, have used to design their own climate change law.

Climate Change Act concerns

While the Climate Change Act has the reputation as being the global gold

standard in climate change law, some weaknesses are now becoming evident ten years on. The country has enjoyed success with satisfying its first two, and likely three, carbon budgets. However, the fourth budget (2023-27) requires a much steeper reduction than previous budgets. Previous success has come largely from targeting 'low hanging fruit', such as coalfired electricity generation (Committee on Climate Change, 2017). It is unclear how the UK will fare meeting its newest budget (2023-27), now that innovation and potentially systemic change are necessary to do so. The Committee on Climate Change has now determined that a 'policy gap' exists in achieving future targets (ibid.).

Recent government delay in creating policy to meet budgets has been one of the many concerns raised by the committee. Importantly, the Climate Change Act overlap and together suggest that climate change is no longer being treated as an urgent national priority in the UK.

The committee's most recent progress report is highly critical of the government's efforts, noting that the UK is no longer on track to meet emissions targets in the 2020s and 2030s and calling for urgent action. It highlights recent cancellation of important programmes, including Zero Carbon Homes, and the lack of policies across the economy, including around transport, buildings and agriculture (Committee on Climate Change, 2018b). These deficiencies are undermining the stability and certainty the Climate Change Act was intended to achieve.

New Zealand's interest in the UK act

New Zealand's interest in the Climate Change Act is recent, yet strong. The UK's success was brought to public attention

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predates the Paris Agreement, which demands more ambition than the act's target will deliver (Committee on Climate Change, 2016). This could be met by adjusting the 80% by 2050 target and developing more ambitious carbon budgets to meet it. However, no legal penalty mechanism exists if government fails to reach a carbon budget. The act relies primarily upon political sanction, subject to the possibility of judicial review (see the discussion below). The government may also meet budgets using internationally traded carbon credits, which appears increasingly relevant in light of new infrastructure strategies at odds with climate change mitigation, such as the Heathrow extension and local fracking. The Committee on Climate Change has criticised the use of international carbon credits, which do little to reduce national emissions at source (Committee on Climate Change, 2017). All these issues

in early 2017, when Lord Deben, the chair of the UK's Committee on Climate Change, visited the country. Much like the Stern Report, Lord Deben used economic reasoning and long-term policy stability to argue in favour of bipartisan climate change action. This visit built upon the efforts of some New Zealand politicians to build cross-party consensus, reports demonstrating how the economy could transition to achieve radical emission reductions, and the advocacy of Generation Zero. Following this, successive parliamentary commissioners for the environment and the New Zealand Productivity Commission have published documents expressing general favour for the Climate Change Act (Weeks, 2017; Parliamentary Commissioner for the Environment, 2017, 2018).

In 2018 the new New Zealand Labour government also expressed interest in basing new climate change law on the

Climate Change Act. The current intention is to draft a climate change bill by October 2018 (Office of the Minister for Climate Change, 2018). An Interim Climate Change Committee was established in April 2018 to focus specifically on the agricultural and renewable energy sectors. It is expected that the findings of this committee will also inform development of the Zero Carbon Act. Public submissions were opened in June 2018, guided by the Ministry for the Environment's discussion document. This document discusses the 'highly regarded' UK model, and it is apparent that the proposed Zero Carbon Act is largely based upon it. Currently up for public submission are included the nature of the target (whether carbon or all gases should be targeted to be reduced to 'net zero' by 2050); the nature of proposed budgets, such as their duration and their flexibility to be changed; and the role of the proposed climate change commission (advisory board or decision-maker?) (Ministry for the Environment, 2018). While these issues are pertinent, by the proposals being based so closely upon the Climate Change Act, an assumption is created that it is the best model for New Zealand.

Prior to the release of the discussion document, the parliamentary commissioner for the environment released a report considering some of the challenges of the UK model for New Zealand, with particular concern about the very different emissions profile and system of environmental law (Parliamentary Commissioner for the Environment, 2018). The following section outlines additional concerns to be considered, which, in the opinion of the authors, warrant close attention. Some, but not all, of these issues have been identified in the discussion document. As Sir Geoffrey Palmer recently pointed out, legislation takes time to design and enact and details 'matter a great deal' (Palmer, 2018). Ultimately, the task is to create enduring legislation that translates international commitments into domestic goals that are implemented and achieved.

Political commitment

As noted above, Climate Change Act commentary frequently highlights the importance of building bipartisan political support prior to its enactment.

This determined the strength of key elements (e.g., the target, statutory fiveyearly carbon budgets and the role of the Committee on Climate Change). However, as successive budgets become more difficult to meet there is concern that the act may not be adequately designed to prevent policies from backsliding (Fankhauser, Averchenkova and Finnegan, 2018). In short, there is real concern about the growing gap between budgets and policies robust enough to deliver on them. This observation demonstrates the importance of crafting legislation that can maintain and build political commitment reflective of the growing urgency of climate change. A general question is whether the commission should have the role of proactively engaging the public, as part of building the support needed to maintain and strengthen political commitment. Also needing close consideration is whether the government should be under a duty to demonstrate how its various policies will actually 'add up' to deliver on successive carbon budgets. This would facilitate timely scrutiny while providing greater certainty about carbon policies (in addition to the budgets) for investors, the public and successive governments. It may also assist with identifying how outcomes in different policy sectors support or contradict one another. New Zealand policymakers may also wish to consider the inclusion of statutory response times between budget adoption and the formulation of policy to meet the budget (Fankhauser, Averchenkova and Finnegan, 2018). While the discussion document proposes that the public should submit on what should happen if a budget is not met, this topic is not discussed further and no proposals are made.

While political consensus has held in the UK, ensuring progressive (and more ambitious) policy development for four budgets, there is no guarantee that this will endure. There are no legal protections in the Climate Change Act. Given the weaknesses of New Zealand's constitutional arrangements, policymakers may wish to consider whether the proposed Zero Carbon Act should be entrenched. While this may be politically very difficult, we should keep in mind the existential threat posed by climate change, together with critical human rights issues and the difficulties of legal action to compel government action (Palmer, 2018).²

Scope and integration

The Climate Change Act is narrowly focused on climate change. This reflects a fundamental choice made at the time to pursue climate change policy separately from broader integrative concepts such as sustainable development (Fankhauser, Averchenkova and Finnegan, 2018). It is also reflective of a strategic focus on climate change and energy, rather than more complex sectors such as agriculture and forestry. This narrow focus should be given very careful consideration in New Zealand. Apart from the well-known differences in emissions profiles, our environmental legislation is very different integration of climate change mitigation and adaption across a broader suite of policy sectors.

In the UK, the institutional framework supporting the Climate Change Act reflected a primary focus on the energy sector. However, the dedicated Department for Energy and Climate Change recently merged with another department, creating the Department for Business, Energy and Industrial Strategy. It is not clear yet whether this change will resolve what is considered inadequate integration of climate change policy across the whole of UK government. As New Zealand's emissions profile is significantly different from the UK's, policymakers will need to give very careful consideration to the supporting institutional framework and how this can foster integration of climate

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from that of the UK. 'Sustainability' and 'integrated resource management' are hallmarks of our law, even in the absence of a national sustainable development strategy (Bosselmann, 2015). More recently, New Zealand has become a signatory to the United Nations 2030 Sustainable Development Goals, which require integrated domestic implementation of all 17 goals. This includes a range of social and economic matters relevant to the issue of achieving 'just transitions' toward a lowcarbon economy that is also adapting to the effects of climate change. A strong sustainability framework addresses social justice and the critical matter of ecological limits, in an integrated manner. Other important trends include the Treasury's development of a Living Standards Framework, which, if implemented, could significantly change New Zealand's national accounting processes (New Zealand Treasury, 2018). In short, a strong sustainable development framework may be an important aspect of achieving

change policy between key emission sectors and government institutions. If possible, New Zealand needs to avoid emerging limitations of the UK Climate Change Act: it has not been able to adequately address the emergence of inconsistent policy development (such as airport extensions and fracking) and cancellations of policy at short notice. Nor has it had adequate influence over housing, transport and labour policy (Fankhauser, Averchenkova and Finnegan, 2018; Committee on Climate Change, 2018b).

A related issue for New Zealand is whether the Zero Carbon Act should take a comprehensive all-emission-sectors approach from the outset. The interim committee has so far only been tasked to advise on agriculture and renewable energy. The discussion document does call for public submissions on whether just carbon or all greenhouse gases should be targeted. This discussion indicates that there may be a nuanced approach in New Zealand regarding different sources of emissions and types of gases.³ The UK experience suggests that all sectors should be included, preferably from the start. In the UK it has been suggested that aviation and shipping should be accounted for under the Climate Change Act, and there has been delay in achieving this partly because they were not included at inception (s30; Fankhauser, Averchenkova and Finnegan, 2018).

Finally, how will the Zero Carbon Act integrate with other policy and legal frameworks? The New Zealand emissions trading scheme is an obvious case for close consideration and was the focus of the parliamentary commissioner for the environment's recent report (2018), but what about other legislation that is currently underutilised, including the climate change action (e.g., through urban planning and transport) and misses an opportunity to engage the public more directly in climate change policy.

Mitigation and adaptation

It is less well known that the Climate Change Act creates a national policy framework for adaption, in addition to mitigation. A subcommittee on adaptation works to a fiveyear cycle, beginning with a comprehensive climate change risk assessment, followed by a national adaptation programme. Relative to mitigation, adaptation policy has been slower to emerge and received less attention, resulting in 'more planning than action' (Fankhauser, Averchenkova and Finnegan, 2018). While this may be

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Land Transport Management Act, the Building Act and the Energy Efficiency and Conservation Act? More generally, how will the Zero Carbon Act achieve integration with the role of local government under the Local Government Act and Resource Management Act (RMA)? Significant changes in the roles and capacities of subnational government have occurred since the Resource Management (Climate Change and Energy) Amendment Act 2004, which confirmed centralisation of mitigation. A strong case can be made for returning mitigation responsibilities to local government through the RMA policy and regulatory framework, which includes an integrated guidance role from central government (Harker, Taylor and Knight-Lenihan, 2017). Again, the UK experience may be instructive. The Climate Change Act adopts a very top-down approach which fails to integrate with local governments' potential to contribute to

due to teething problems with the first assessment and adaptation programme, it also raises a much more fundamental issue: whether mitigation and adaptation should continue to be treated as related, but largely separate, policy sectors and, if not, what the appropriate institutional arrangements should be. The discussion document proposes to treat climate change adaptation in exactly the same way the Climate Change Act does, in a top-down manner and as an issue largely separate from climate change mitigation. However, this may be a critical opportunity to consider the emergence of 'climate compatible development', which treats the need to lower emissions and anticipate impacts while improving human well-being and ecological integrity as intimately connected tasks (Mitchell and Maxwell, 2010).

Incorporation of international obligations

It has been said: 'For a law dealing with a global environmental problem, the

[Climate Change] Act is surprisingly domestic in its scope' (Fankhauser, Averchenkova and Finnegan, 2018). The international context is one factor that must inform the Climate Change Act budgets, but they remain unilateral and a matter of domestic policy. This is only partially due to the act predating the Paris Agreement. Legislative incorporation of international obligations was not the act's intention. Its continuing domestic focus affords the UK government considerable flexibility. Nevertheless, the Committee on Climate Change and other commentators have noted that the Climate Change Act will need to be made compatible with the Paris Agreement (ibid.) and its emerging architecture. This could include changing the target to 'net zero emissions' (as proposed in the Zero Carbon Act discussion document), enhancing the relevance of the national pledge (known as nationally determined contributions, or NDCs), or addressing climate finance and adaptation obligations together with the role of international carbon credits (ibid.). All these issues are important, but, more critically, policymakers need to address whether (and if so how) the Zero Carbon Act can be crafted to enable domestic interest groups to use it to facilitate the progressive development of ambitious NDCs (clearly linked to the Paris Agreement global warming limit of well under 2°C and preferably 1.5°C), together with timely compliance. NDCs are currently unilateral and non-binding, but are to be progressively strengthened over time, according to emerging principles (Brown et al., 2018). As such, NDC content and implementation is currently reliant on a combination of trust and 'naming and shaming'. This could be greatly enhanced through the design of the Zero Carbon Act, the objective of which is to link the NDC process with the domestic budgets in terms of their ambition and compliance. More generally, how can domestic legislation be constructed to overcome a range of accountability (and other) gaps in international commitments and provide for evolution of the Paris Agreement architecture? In considering the complex interaction between international norms and domestic law, analysis of legal action by Plan B against the UK government and

the outcomes of the Thomson case⁴ in New Zealand will be instructive (Plan B, n.d.).

On the face of it, the potential Zero Carbon Act target of 'net carbon zero by 2050' might be compatible with the Paris Agreement, which requires a 'balance between sources and sinks in the second half of the century' (article 4). However, how this 'net' element is defined, accounted for and achieved will be critical and the timelines (for keeping within the Paris Agreement warming limit) depend upon emission rates.⁵ The Paris Agreement also requires peaking of emissions as soon as possible and rapid reductions thereafter (article 4). In this respect, it is notable that even though the Climate Change Act explicitly provides for the use of international credits to meet budgets, the consensus has been that targets should be met solely through domestic action (Fankhauser, Averchenkova and Finnegan, 2018). As noted above, the Committee on Climate Change recently reiterated that credits (outside the EU system) should not be used to meet budgets, as this distracts from domestic reductions. Despite this, international credits are still given consideration in the discussion document and are open to public submission. Given New Zealand's past reliance on international credits and problems with the emissions trading scheme, this will be a critical issue requiring explicit consideration. More generally, legislation needs to be carefully crafted regarding domestic reduction at source and the role of carbon sinks.

Given the limited global carbon budget, New Zealand could consider the applicability of the 'carbon law' (or an equivalent for all gases) for creating quantifiable rather than percentage reductions, delivering a halving of gross emissions every decade (Rockström et al., 2017). However, this approach would require a different model from that currently proposed by the Zero Carbon Act.

Role and composition of the commission

The independent and expert Committee on Climate Change is considered the 'fulcrum of the UK climate change architecture' (Fankhauser, Averchenkova and Finnegan, 2018). It recommends successive budgets and monitors policy performance on both mitigation and adaptation. As an independent and expert technical body, it is seen as better equipped to take a more credible long-term view of policy (including budgets) than politicians. It also plays a critical role in monitoring and reporting processes intended to hold the government to account. It produces annual progress reports to Parliament, evaluating whether the government is going to remain within the budget. Government must respond within a statutory time frame. At the start of a budget, it will comment on the policies formulated to meet that budget. At the end of a carbon budget, the committee provides a detailed report on policy performance. In a recent report, it stated

concerning how prescriptive legislation can and should be about policy priorities, processes, objectives and a requirement that policies 'add up' (i.e., it can be demonstrated how they are intended to actually achieve budgets). In other words, how should the government's discretion to determine policy options be reconciled with a statutory duty to achieve a budget?

Careful consideration of these and related issues may result in an enhanced evaluative role for a New Zealand climate change commission. Related to this is the politically sensitive matter of an enforcement role. It is generally considered that lack of enforcement powers is necessary to prevent an independent body from becoming politicised. However, given the urgency and

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of the new UK Clean Growth Strategy: whilst some new policies are announced in the Strategy, the detailed policies and measures to meet the targets are not, in general, set out ... a gap in meeting the fourth and fifth carbon budgets remains' (Committee on Climate Change, 2018a, p.5). As previously noted, its most recent report criticised government policy and called for urgent action. However, the Committee on Climate Change does not act as a legal enforcer. Nor does the Climate Change Act include legal sanctions for failure to deliver adequate policy or to meet carbon budgets. Instead, it relies on political and public pressure and the possibility of judicial review proceedings by third parties (see legal accountability, below).

Some commentary has criticised the role of the Committee on Climate Change, claiming that it does not evaluate government policy as such, and in particular that it does not provide hardedged scrutiny (Church, 2015). This criticism raises a broad range of issues

human rights implications of climate change policy (together with the difficulties of judicial review – see below), some form of enforcement role should not be dismissed either for the commission or (in the alternative) for another independent body. The parliamentary commissioner for the environment is currently limited to a commissioner of inquiry role, with investigatory reports delivered to Parliament.6 There may be merit in considering an enhanced role for the commissioner or the creation of a new entity. In short, if some form of enforcement role for a climate change commission is not politically achievable or desirable, other options should be considered. The constitutional implications of creating a commission (or other independent agency) with a legal enforcement role also need to be carefully examined, as this may be considered a threat to New Zealand's parliamentary supremacy. In this regard, it is important to note that the Committee on Climate Change does not have a decisionmaking role; it merely recommends carbon

budgets. Interestingly, Brexit has triggered UK debate about replacing the significant legal enforcement role of the EU Commission on environmental regulation with an independent environmental watchdog, potentially capable of taking legal action against government (Hill, 2017).

The role chosen for the New Zealand commission (together with the scope of the Zero Carbon Act) will need to be carefully matched with relevant expertise. This could be legislated for, in a similar manner to RMA provisions on expertise of environment commissioners. In this regard, expertise to ensure policy evaluation against the principles of the Treaty of Waitangi will be a key consideration. This has the potential to lead to a far more holistic understanding of policy, reflecting a Māori worldview of human-nature relationships and social justice. Consideration should also be given to ensuring representation of the interests of Pasifika communities and future generations. The composition of the New Zealand commission needs to balance the chosen 'public role' with its technical advisory role, particularly in relation to budget recommendations. It also needs to reflect expertise of all relevant policy and governance sectors, including local government. Funding mechanisms to ensure impartiality and fulfilment of its statutory role will also be essential (Fankhauser, Averchenkova and Finnegan, 2018).

any gateway provisions relating to appeals, including legal standing. This has led to uncertainty about aspects of judicial review proceedings. Questions to be considered include whether there should be express provision for matters such as statutory duties versus discretions; what elements can be reviewed; grounds for review; legal standing; and remedies (Fankhauser, Averchenkova and Finnegan, 2018). Given the burdens (and potential benefits) of legal action on climate change for citizens and public interest groups, additional elements to support legal action, such as legal aid, merit consideration ((Fisher, Scotford and Barritt, 2017).7 Decisions on these matters will be particularly important if the New Zealand commission (or other body) does not have legal enforcement powers. More generally, it has been suggested that many elements of judicial review warrant a radical rethink, given the particular challenges of climate change and the harms that can ensue (ibid.). In short, the balance between policy discretion and prescription needs to be carefully considered both in political terms and as it relates to judicial review proceedings.8 Finally, innovative climate change legislation for New Zealand could include the emerging environmental law principle of non-regression (Krämer and Orlando, 2018) and enhanced provisions for access to official information (Palmer, 2018).9

Legal accountability

Related to a potential enforcement role for a New Zealand commission (or other independent body) is the issue of judicial review. The Climate Change Act omitted

Conclusion

The Climate Change Act is largely considered a success in terms of the way climate policy has been conducted in the

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UK, including the development of an empirical evidence base, regular reporting, enduring political consensus and certainty over carbon budgets. Significant transformation has occurred in the energy sector (Fankhauser, Averchenkova and Finnegan, 2018; Department for Business, Energy and Industrial Strategy, 2018). However, New Zealand policymakers need to carefully consider the extent to which it is a model fit for purpose for the critical decade leading up to 2030 and beyond. The objective of this article has been to raise some issues relevant to that task. New Zealand (and the world) has limited time both to achieve radical emission reductions and to address impacts.

- 2 An alternative suggestion proposed by Sir Geoffrey Palmer involves constitutional reform, including the provision of an environmental right (Palmer, 2018).
- 3 Any exclusion or alternative treatment for methane as a short-lived gas needs to be very carefully investigated and justified.
- 4 Thomson v The Minister for Climate Change Issues [2017] NZHC 733.
- 5 Recent research concludes: 'The 1.5 and 2°C warming targets are reached in 17–18 years and in 35–41 years, respectively, if the carbon emission rate is assumed to remain at its present-day value' (Goodwin et al., 2018).
- 6 Sir Geoffrey Palmer (2018) considers the potential role of the Waitangi Tribunal, in addition to the parliamentary commissioner for the environment.
- 7 A recent Grantham Research Institute report notes that climate litigation has generally strengthened regulation and thus has a constructive influence. However, it can be a double-edged sword and be used to weaken or oppose regulation (Nachmany et al., 2017).
- 8 Sir Geoffrey Palmer (2018) notes judicial review is a limited mechanism for holding the New Zealand government to account for its climate change policy. To strengthen accountability, he proposes significant constitutional changes, including introduction of an environmental right. He argues that New Zealand needs a robust legal framework beyond single purpose legislation.
- 9 This principle is intended to ensure that accepted norms are not amended in a manner which weakens those norms. A constitutional right to the environment may have a similar influence.
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Title

Speaker

Stephen Groff, Vice-President, Operations of Asian Development Bank

Thursday 23 August 12:30pm – 1:30pm Rutherford House lecture theatre 2 RSVP: igps@vuw.ac.nz

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