

Trashing Waste

unlocking the wasted potential of New Zealand's Waste Minimisation Act

Abstract

Ten years on from the enactment of the Waste Minimisation Act 2008, New Zealand's waste policy remains sorely neglected. Successive governments have left the act largely unimplemented, allowing market failures, path dependence and fragmentation to deepen throughout New Zealand's waste and recycling system. In 2017 a new minister assumed the waste portfolio, declaring an intention to use the Waste Minimisation Act to reverse New Zealand's 'rubbish record on waste'. This article outlines a range of policy solutions available to the government, analyses why these policy tools have been underutilised to date, and proffers a roadmap for overcoming the identified obstacles.

Keywords waste, Waste Minimisation Act, circular economy, recycling

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Rubbish, in modern societies, is often treated as 'out of sight, out of mind' – discarded into the nearest receptacle and promptly forgotten. In New Zealand, this philosophy has apparently also infiltrated waste policymaking. Over three decades, successive governments have resisted regulating to improve the country's waste management system or encourage waste minimisation, despite numerous domestic and international commentators recommending urgent policy reform. This neglect may explain New Zealand's position as one of the world's most wasteful countries per capita, with fragmented waste and recycling systems lagging behind those in other high-income countries.

In this context, the 2008 Waste Minimisation Act (WMA) was a watershed moment. This ambitious legislation endowed the minister for the environment with multiple policy levers for reducing waste. Originally a private

member's bill (of Green MP Nandor Tanczos), it was adopted as a government bill and passed with cross-party support after an unusually long two-year select committee process. The act generated hope that change was finally afoot after decades of legal uncertainty and deregulation in the waste sector. Regrettably, ten years on, the WMA's implementation has been disappointingly lacklustre, its regulatory provisions mostly languishing unutilised (Hannon, 2018).

Recently, reason for hope has reemerged. Following the 2017 election, a new minister – Green MP Eugenie Sage – assumed the

New Zealand's waste woes

Determining the scale and nature of New Zealand's waste problems is hampered by severe data deficiencies, which have attracted international and domestic criticism.¹ World Bank data suggests New Zealand is the most wasteful country in the OECD, and the world's tenth most wasteful country, per capita (Hoorweg and Bhada-Tata, 2012, p.82). Since 2009, New Zealand's recorded quantity of net waste disposed of in levied landfills has risen by 35%, with a 20.1% increase between the last two levy review periods² (Ministry for the Environment, 2017a, p.9).

leachate capturing systems, New Zealand's older or closed landfills (more than 1,000 sites) generally do not, so can pollute the surrounding environment (Ministry for the Environment, 2001, p.1). Many are vulnerable to extreme weather events, which compromise capping and expose rubbish.³ Furthermore, illegal dumping is a persistent problem, while most rural waste is burned or buried in private, unmonitored dump sites, risking soil, waterway and groundwater contamination (Matthews, 2014, pp.i-ii; GHD, 2013, p.ii; Ministry for the Environment and Statistics New Zealand, 2018, p.67).

Avoiding these negative outcomes requires, first, diverting recoverable materials from disposal. However, New Zealand recovers just 28% of total waste (Wilson et al., 2017, p.17), thanks to uncorrected market failures, particularly externalised disposal costs and insufficient incentives to develop appropriate processing infrastructure (Ministry for the Environment, 2014, p.5). New Zealand's small, geographically dispersed population threatens recycling's economic viability, escalating transportation costs and constricting growth of onshore processors (OECD, 2007, pp.56–7; Davies, 2009, pp.173–4; Ministry for the Environment, 2009, pp.14–15; OECD, 2017, p.23). While there is a domestic bottle-to-bottle glass recycler in Auckland, high transportation costs mean significant quantities of recyclable glass (especially in the South Island) ends up in landfill or stockpiles or is otherwise suboptimally diverted. Meanwhile, underdeveloped onshore processing capacity has resulted in precarious over-reliance on recycling export markets⁴ (WasteMINZ, 2018, p.4; Ministry for the Environment, 2009, pp.14–15). Indeed, China's 2017 decision to block recycling imports with contamination rates above 0.5% has plunged New Zealand's recycling system into 'crisis' (WasteMINZ, 2018, p.4).

New Zealand's waste disposal levy – \$10 a tonne for waste deposited at a 'disposal facility'⁵ – is currently too low in comparison with other levy-imposing countries (see Figure 1) and too narrowly applied to incentivise waste reduction (Wilson et al., 2017; OECD, 2017, p.73). New Zealand lacks comprehensive

New Zealand's disposal-oriented, unco-ordinated waste system, lacking in policy or financial support for recycling, resource recovery or waste reduction contradicts waste policy trends internationally, ...

waste portfolio, espousing an explicit willingness to implement the WMA to tackle New Zealand's 'rubbish record on waste' (Sage, 2018c). In August 2018 she announced a waste work programme (Sage, 2018a). While this is encouraging, the task ahead remains complex, yet urgent. Persistent policy stagnation has entrenched pre-existing market failures, path dependence and fragmentation in New Zealand's waste management system. To overcome these challenges, the government must successfully translate rhetoric into evidence-based action, relatively rapidly. Achieving this requires adequate consideration of:

- the nature of New Zealand's waste problems;
- internationally accepted policy solutions and the WMA's potential to be an effective policy instrument;
- why New Zealand has continually failed to achieve meaningful waste policy reform;
- a clear strategy for overcoming obstacles to the WMA's implementation.

However, levied landfills represent just 11% of New Zealand landfills, handling around 30% of total waste (Tax Working Group, 2018, p.69). Data on the remainder is extremely poor: of the 381 known, non-levied consented landfills, filling rates are available for just 17% (Cocks, 2017, pp.7, 9).

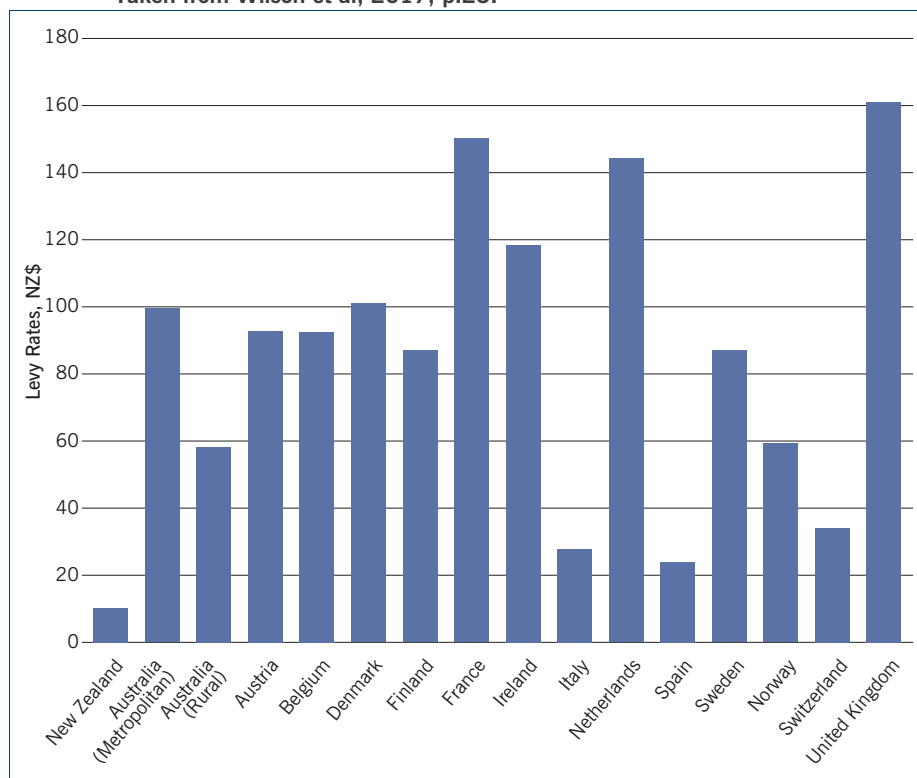
Solid waste management carries fiscal and environmental costs, demanding expensive infrastructure for collection, sorting, disposal, and remediation of contamination from incineration or burial (Hoorweg and Bhada-Tata, 2012, pp.4–7). The Auckland region alone spends \$126 million annually on such services (Auckland Council, 2018, p.15). Unfortunately, waste systems are not impermeable. Plastics leakage into marine and terrestrial environments presents a global emergency also afflicting New Zealand (World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company, 2016, pp.15, 17; Horton et al., 2017). Meanwhile, although modern landfills have sophisticated methane and

municipal collection and composting of organic waste – the largest single proportion of household waste and roughly 25% of total waste going to levied landfills – because landfilling is currently cheaper (Ministry for the Environment, 2017a, p.21; Wilson et al., 2017, pp.8–9). Similarly, construction and demolition waste constitutes roughly 50% of landfilled material, despite being mostly recoverable, as non-levied landfills accept this waste stream (Wilson et al., 2017, p.9). New Zealand also has low recovery rates for problematic waste items, including tyres and electronic waste (OECD, 2007, pp.56–7; Hannon, 2018). For example, only around 30% of end-of-life tyres are diverted from landfill, compared to 80–90% in countries with regulatory frameworks (Ministry for the Environment, 2014, pp.21–2).

Compounding matters, New Zealand’s waste system is fragmented, amplifying the country’s already small economies of scale. Numerous actors, from local government and the private and community sectors, operate in the waste sector, with no obvious oversight or direction (Davies, 2009). Virtually no national guidelines exist for data collection or service provision. Unmediated fragmentation has exacerbated a competitive, sometimes hostile, ethos among stakeholders (Oakden and McKegg, 2011, pp.30–1). The collaboration and shared expertise New Zealand requires to escape its waste problems are compromised without a national referee to arbitrate the sector’s advocacy and level playing fields (Coutts, 2018, p.23). However, the Ministry for the Environment arguably lacks the expertise to fulfil this function (Hannon, 2018, pp.12–13; Davies, 2009, p.168).

This patchy policy environment also produces inefficiencies. Local government has responsibility for waste and recycling services, but mostly contracts the private sector, with variable standards of service, council control and oversight (Davies, 2009, p.168; Ministry for the Environment and Statistics New Zealand, 2018, p.66). Privatisation often fosters path dependence; commercial sensitivities thwart improved data collection, while resource-constrained territorial authorities often contract ‘the lowest cost or most convenient services’, producing inferior quality recyclable

Figure 1: Levy Rates for Active Waste in Different Countries (NZ\$).
Taken from Wilson et al, 2017, p.25.



materials (WasteMINZ, 2018, p.9; see also Coutts, 2018, p.22). These contracts’ long duration and investment in equipment suited to the contracted systems shoehorn services towards low-value recycled product.

Meanwhile, the waste minimisation burden largely falls on non-state actors, who rely on moral suasion and voluntary efforts with high opportunity costs. Without government regulation of frequently littered waste streams, volunteers spend hundreds of thousands of hours annually at clean-up events (Davies, 2017, pp.33–4). Proactive businesses have adopted waste minimising practices, but these cost time and money and expose them to freeloading. Community composters and resource recovery groups lead efforts to divert waste streams like organics, construction and demolition waste and electronics, developing considerable expertise and resilience in challenging policy environments, but many face obstacles to remaining viable or upscaling without policy reform.⁶ While voluntary and community efforts are necessary and laudable, relying on them without supporting regulation or adequate investment is an inefficient (and unfair) path to national waste reduction

(Parliamentary Commissioner for the Environment, 2006, p.78).

Many commentators have urged central government leadership to address New Zealand’s waste problems (ibid., p.8; Davies, 2009, p.173; WasteMINZ, 2018; TA Forum, 2018; Hannon, 2018). However, successive governments have struggled to establish and/or sustain any strategic response. The 2002 New Zealand Waste Strategy’s overarching ‘zero waste’ vision and 30 waste minimisation targets were overturned in 2010 before any change materialised (Hannon, 2018, pp.27–9). Similarly, although the WMA’s enactment was successful, its implementation has not been (ibid., p.16).

Policy solutions at home and abroad

New Zealand’s disposal-oriented, uncoordinated waste system, lacking in policy or financial support for recycling, resource recovery or waste reduction contradicts waste policy trends internationally, which generally espouse a hierarchy of actions prioritising waste minimisation and resource recovery over treatment and disposal (Wilson et al., 2017, p.21; Hoornweg and Bhada-Tata, 2012, p.27). While New Zealand pays lipservice to this hierarchy, applying it requires high-level

policy redesign decoupling economic growth and waste production.

For the last 150 years, global economies have followed linear 'take–make–dispose' patterns, extracting earth's resources to manufacture products that are sold, used, then disposed of at the end of their life (World Economic Forum, 2014, p.13). Apart from producing excessive waste, linear consumption erodes resource productivity because valuable, often finite resources are routinely lost to the economy through landfilling or incineration (ibid., p.21). Accordingly, experts such as the Ellen MacArthur Foundation advocate transition towards circular economies that 'design out waste' (ibid., 2014, p.15). Materials stay in the economy through 'closed-loop' systems

However, such large-scale transformation of entrenched economic structures requires concrete policies and government oversight to ensure nationally consistent, mandatory measures that level playing fields (Ellen MacArthur Foundation, 2015). Key policies include:

- banning or regulating certain products that cannot be circularised;
- landfill levies to disincentivise waste production and incentivise resource recovery;
- mandatory economic instruments, such as deposit refund or product stewardship schemes, to encourage circular business practices for problem waste items; and
- national strategies and comprehensive

in an information void are anathema to circularity. An obvious policy action is to begin mandating data collection on the quantity, composition and treatment of waste and recovered materials, which section 86 of the WMA permits.⁷ Next, binding national standards for territorial authorities could help standardise best-practice waste and recycling services, reduce regional variation and enable nationwide public information campaigns on household recycling and waste minimisation. Under section 49 of the WMA the minister can set performance standards for territorial authorities' implementation of waste management and minimisation plans, potentially including: standards for spending levy income; target recovery, recycling and reuse rates; targets for reinvigorating community-based recycling; and best-practice minimum standards for waste and recycling services, including baseline contract conditions and adequate weighting of social/environmental outcomes when evaluating tenders.

According to WasteMINZ's Territorial Authority Forum, increasing and expanding the waste disposal levy 'is the single most powerful tool available to government to reduce waste and improve resource efficiency and recovery'

achieved via product redesign and effective resource recovery, facilitated by industry–government–retailer co-ordination.

While fundamentally challenging the status quo, the circular economy has acquired international currency. The World Economic Forum describes it as 'a trillion-dollar opportunity, with huge potential for innovation, job creation and economic growth' (ibid., 2014, p.3). In 2015 the European Commission adopted a Circular Economy Action Plan, containing extensive, measurable targets. In New Zealand, acceptance of the circular economy concept is growing. The Sustainable Business Network recently noted that circularisation of Auckland's economy could contribute \$8.8 billion to Auckland's GDP by 2030 (Sustainable Business Network, 2018). Minister Eugenie Sage openly supports addressing New Zealand's waste problems through circular economy principles (Sage, 2018b).

data collection to drive and monitor progress.

In 2006 New Zealand's parliamentary commissioner for the environment recommended many similar policies in a report imploring the Ministry for the Environment to incentivise better waste management through economic instruments. Then, the government had fewer tools at its disposal. Now, the WMA permits both economic instruments and command and control measures that could soften market failures and enable circularisation. These tools offer significant untapped potential to rapidly improve New Zealand's waste policy landscape through national co-ordination, disincentivising linear disposal and mandating circularity.

Achieving national co-ordination

Successful circular economies presuppose co-ordination, good data and shared purpose. New Zealand's ad hoc, fragmented waste and recycling systems operating

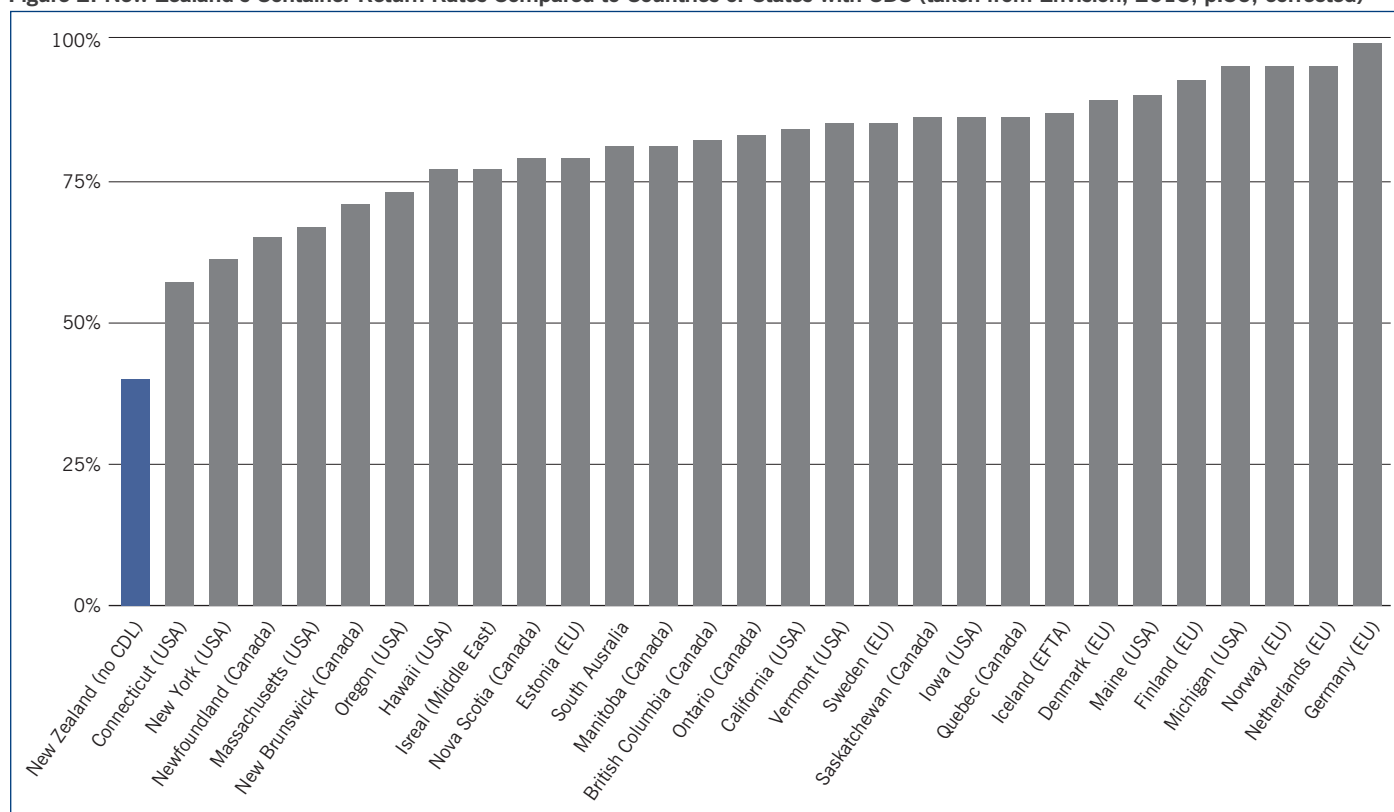
Disincentivising linear disposal/incentivising alternatives

Ban/control certain items

The Sustainable Business Network notes that '[b]anning or severely restricting ... troublesome materials, like micro beads or single use plastics, could help to focus innovation on circular economy solutions' (Sustainable Business Network, 2018, p.30). To ameliorate New Zealand's recycling crisis, WasteMINZ also suggests 'actively restricting the use of products or materials for which there is no viable recovery pathway (such as some types of plastic)' (WasteMINZ, 2018, p.9). Removing these items from the waste stream encourages movement up the waste hierarchy.

International precedent exists for such regulatory action, particularly for the linear economy's *sine qua non*, single-use plastics. Several Pacific Island states – including Vanuatu, Niue and Samoa – have banned or are developing bans for certain single-use plastics, including bags, straws and polystyrene (Buchanan, 2018). In late October 2018 the European Parliament voted to adopt the European Commission's proposed directive to ban ten single-use plastic items (including plastic cotton buds,

Figure 2: New Zealand's Container Return Rates Compared to Countries or States with CDS (taken from Envision, 2015, p.50; corrected)



cutlery and straws), set national reduction and/or recycling targets for non-banned plastic products, oblige producers to fund clean-ups and incentivise development of alternatives (European Parliament 2018). The European Parliament and Council have already mandated that member states levy or ban single-use plastic bags (Directive 2015/720/EC).

The WMA permits similarly proactive policies. Under section 23(1)(b) the minister can control or prohibit the sale and manufacture of products containing specified materials. Yet section 23 has been used only twice: to ban the sale and manufacture of personal care products containing plastic microbeads (2017), and to propose phasing out single-use plastic bags (2018). While necessary and welcome, both actions followed long-standing public campaigns, avid local government lobbying and/or voluntary retailer phase-outs (Ministry for the Environment, 2018b, p.20). The government could use section 23 much more ambitiously and proactively.

Waste disposal levy

Linear activity is insurmountable while disposal costs undercut recovery costs. According to WasteMINZ's Territorial Authority Forum, increasing and expanding

the waste disposal levy 'is the single most powerful tool available to government to reduce waste and improve resource efficiency and recovery' (TA Forum, 2018, p.6). Overseas experience demonstrates that landfilling responds to price signals, so higher, comprehensive landfill levies should help reduce disposal rates (Tax Working Group, 2018, p.69; World Economic Forum, 2014, p.26). Under section 41 of the WMA the government can redefine 'disposal facility' to cover all landfill sites and prescribe a higher levy; rate – whether small, incremental increases or a hike to \$140 a tonne, as Wilson et al. (2017) propose. Most local authorities support increasing and expanding the levy; the Tax Working Group recently indicated its support too (TA Forum, 2018, p.6; Tax Working Group 2018, p.70).

As levy revenue is redirected to waste minimisation activities through the Waste Minimisation Fund,⁸ a higher, comprehensive levy would also increase available revenue for addressing onshore infrastructure gaps and boosting recycling's cost-competitiveness (Wilson et al., 2017, p.47; WasteMINZ, 2018, p.8). However, two reviews of the levy's effectiveness have described the Waste Minimisation Fund's current allocation as 'largely ad hoc and

predominantly applicant-driven rather than being directed purposefully' (Ministry for the Environment, 2017a, p.70). Similarly, perceptions have developed of ministers adopting a 'pick winners' approach to allocation (Hannon, 2018, p.31). Future use of levy revenue should follow 'a clear strategic framework' (Wilson et al., 2017, pp.17) and include increased transparency of central government's WMA funding powers.

Mandating circularity

Deposit refund systems

Alongside disincentivising disposal, requiring adoption of circular business practices is critical. A simple measure permitted by section 23 of the WMA are mandatory deposit return schemes, such as a container deposit system for beverage containers (already in use in much of Australia, South Africa, the United States and Europe). As Figure 2 shows, New Zealand's bottle recovery rates are low (around 40%); roughly a billion bottles go to landfills or are discarded as litter annually (Envision New Zealand, 2015, p.8). International evidence demonstrates that container deposit systems reduce beverage container littering drastically (Davies, 2017) and can increase collection/

recovery rates to 80–95% (Envision New Zealand, 2015). They also improve the quality of recovered material (Davies, 2017, p.36; European Commission, 2018, p.2) – an antidote to New Zealand's current recycling contamination rates (Envision New Zealand, 2015, p.22) – and could finance transporting glass bottles from across New Zealand to Auckland's recycler. Increased glass bottle recovery rates could also facilitate bottle reuse systems (Envision New Zealand, 2015, pp.77–8), 'a signature example of closed regional and local loops' (World Economic Forum, 2014, p.30).

A container deposit system is low-hanging policy fruit, attracting over 90% of councils' support and 83% of the

s8). As such, product stewardship is a polluter pays approach, transferring 'the responsibility and cost of product waste disposal from local authorities and ratepayers to producers and consumers' (New Zealand Product Stewardship Council, n.d.). Product stewardship can include advance disposal fees being built into a product's purchase price, producer responsibility to take back products for recycling, or mandatory recovery rates for packaging.

Generally, product stewardship schemes incentivise design of easily repairable, upgradeable, recyclable or compostable products, shifting commercial activity up the waste hierarchy. They can

participation rates; lack of binding targets; over-reliance on consumer goodwill; and vulnerability to the freeloader problem, whereby industry players choosing not to redesign, recover, reuse or recycle gain competitive advantage over those who do (ibid., pp.47, 79–80; Envision New Zealand, 2015, p.51; Hannon, 2018, p.14). By 2014 New Zealand's 11 accredited voluntary product stewardship schemes had diverted just 1.4% of the country's total waste to disposal facilities (Ministry for the Environment, 2014, p.1).

Mandatory product stewardship schemes are politically and logistically feasible. The Ministry for the Environment has acknowledged successful international examples for waste streams such as tyres, electronic waste and agricultural chemicals (ibid., pp.6, 16, 22, 25), which already regulate many international businesses operating in New Zealand. Furthermore, various industry groups have approached successive governments seeking regulation (ibid., pp.8, 10; TA Forum, 2018, p.11). Countless bodies have recommended that New Zealand implement mandatory schemes, including the OECD (2007), the parliamentary commissioner for the environment (2006), local government (TA Forum, 2018) and the New Zealand Product Stewardship Council. Ministry-initiated public consultations and working groups involving industry and other experts on various waste streams have demonstrated significant support for mandatory schemes (Ministry for the Environment, 2010a, 2014, pp.17, 22, 25–6, 2015; Rose, 2015, p.11).

Why has New Zealand failed to achieve meaningful waste policy reform?

The WMA permits many politically and logistically feasible policy reforms that could ameliorate New Zealand's waste woes. However, the overwhelming theme since its enactment has been wasted potential (Hannon, 2018). Behind the scenes, various obstacles impede even minimal advances in waste policy.

Lack of political will

Waste has been low on the political agenda, diminishing central government accountability for inaction. Functioning waste management systems – featuring

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public's (TA Forum, 2017, p.11). An independent cost–benefit analysis of a New Zealand system estimated overall net benefits of between \$184 million and \$645 million, with the best case scenario showing benefits six times the costs and the worst case scenario benefits twice the costs (Davies, 2017, p.41). Waste consultancy Envision New Zealand has already crafted a New Zealand blueprint after reviewing and consolidating international best practice. Experts agree that capacity exists through the country's recycling centres and transfer stations (Davies, 2017, pp.20–1; Envision New Zealand, 2015, p.26).

Product stewardship

Numerous waste streams could be better managed through product stewardship schemes, which make manufacturers and others involved in a product's life cycle responsible for ensuring that product's effective reduction, reuse, recycling and recovery and managing any harm caused if/when it becomes waste (WMA,

also iron out market failures undermining resource recovery. For example, recycling rate targets and advance disposal fees for imported tyres could lift recovery rates and foster 'a commercial environment for investment in end-use markets' (Rose, 2015, p.12). For packaging, mandatory product stewardship could align materials going to market with New Zealand's recycling infrastructure capabilities or incentivise adoption of easily reusable packaging (WasteMINZ, 2018, p.5).

The WMA provides a legislative framework for both voluntary and mandatory product stewardship schemes. To date, 15 voluntary schemes have been accredited, but no mandatory scheme. Voluntary mechanisms have a place, but are more appropriately 'short-run, stopgap' measures, given their well-recognised limitations (Parliamentary Commissioner for the Environment, 2006, p.80). They struggle to achieve high diversion rates or economies of scale that permit efficient resource allocation, because of low

collection, removal, disposal in covered holes and valleys or shipping overseas – generally reduce waste’s public visibility. Astoundingly poor data on waste also masks the scale of the problem, and regional variance in services thwarts national information campaigns. Public awareness about the WMA is ‘extremely low’ (UMR Research, 2011, p.4).

Fortunately, public scrutiny of waste issues is increasing, catalysed by international documentaries revealing the extent of marine plastic pollution, notably David Attenborough’s *Blue Planet II*, and primetime television footage of New Zealand’s mountainous recycling stockpiles. The present government’s willingness to use the WMA coincides with this upsurge in public consciousness.⁹ However, most public attention focuses on the issue of plastic, rather than the WMA’s neglect or waste generally. While the plastic case study indicates that increased public pressure can foster a positive climate for waste policy reform, whether similar public pressure bears upon arguably less capitivating waste-related issues is doubtful.

Governance gap

Central government holds the powers to reform waste policy, but local government is charged with day-to-day management of rubbish and recycling and setting objectives and methods for local waste management and minimisation (WMA, s43). Arguably, central government’s practical detachment from these tasks has shielded it from a sense of urgency regarding policy reform and the deleterious impacts of reform not being implemented. To redress this governance gap, local government holds ‘an important voice’ (Envision New Zealand, 2015, p.9). Indeed, many councils list lobbying central government to implement the WMA as an action under their waste management and minimisation plans.

However, rather than clear channels of waste-related advice, ‘a perceptible disconnect’ exists between central and local government perspectives (Hannon, 2018, p.13). Councils’ overwhelming support for activating the WMA’s policy levers – including bottle deposits and mandatory product stewardship – has elicited little response, raising a red flag regarding the policy creation process. For example, in

2016, in evidence before a select committee considering a petition to ban single-use plastic bags, the Ministry for the Environment reportedly responded to an observation that 89% of councils supported a ban by stating that ‘councils had not brought any problems with current policy initiatives to its attention’ (Local Government and Environment Select Committee, 2016, p.7).

Preference for voluntary measures over mandatory measures

Long-standing ideological preference for voluntary schemes has impeded

Persistent inclination toward voluntary schemes across successive governments may suggest preference for this position within the Ministry for the Environment itself. In 2003 the then minister’s consideration of mandatory waste levies was ‘canned’ because of a ‘reprioritisation in the ministry’ towards working with industries to encourage ‘voluntary recycling’ (Collins, 2003). The waste section of the ministry’s 2017 *Briefing to the Incoming Minister* did not mention mandatory measures, section 23 of the WMA or product stewardship, despite explicitly referring to ‘legislative levers’ to address

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mandatory measures in waste policy (Envision New Zealand, 2015, p.46; Davies, 2009, p.165; Hannon, 2018). In 2006 the parliamentary commissioner for the environment lamented that New Zealand policymakers seemed ‘fixated on voluntary measures’ for addressing waste (2006, p.7). Some predicted that this fixation would relax in the post-WMA era (Davies, 2009, p.173). However, a 2014 Ministry for the Environment consultation document on priority products for mandatory product stewardship stated that since the WMA’s enactment, encouraging voluntary schemes had been the government’s ‘first priority’; although submissions on the ministry’s 2009 consultation mostly supported priority product declarations, these were not progressed ‘because Government wanted to allow time for voluntary measures to demonstrate their effectiveness’ (Ministry for the Environment, 2014, p.1, 2009, p.8).

waste. Instead, the document emphasised the waste disposal levy and the Waste Minimisation Fund, adding that ‘[n]on-regulatory tools, such as guidance and voluntary initiatives, can also help minimise waste’ (Ministry for the Environment, 2017b, p.14).

Endemic indecisiveness on waste policy, even when ministers have expressed an intention to act, also suggests bureaucratic inertia. In 2014 the then minister stated, ‘the time has come to consider appropriate mandatory approaches for selected priority waste streams’ (Ministry for the Environment, 2014, p.1), yet none eventuated. Perusal of ministry publications over decades shows repeated cycles of consultation on the same waste issues, generating substantially similar submissions from the same stakeholders. Yet their demonstrable preference for mandatory product stewardship has been routinely and inexplicably ignored. The parliamentary commissioner for the

environment observed similar policy vacillation in the pre-WMA era (Parliamentary Commissioner for the Environment, 2006, p.8).

Industry influence

The pro-voluntary approach happens to align with the interests of certain industrial sectors that have consistently opposed mandatory measures in waste policy. Internationally, industry opposition to such measures is well documented (Tombleson and Farrelly, 2016, p.10; Envision New Zealand, 2015, pp.10, 17). While many New Zealand

packaging accords with industry that have proved largely ineffectual (Hannon, 2018, p.41).

The Ministry for the Environment has awarded substantial Waste Minimisation Fund grants to industry techniques of deflecting regulation, particularly anti-littering campaigns. In the 1950s the international packaging industry began developing such campaigns alongside increasing use of single-use packaging, to focus attention on consumer behaviour and 'avoid discussing the responsibility of the producer to reduce or redesign packaging' (Murray, 2017, p.20). The

Waste Minimisation Fund grants for the Public Place Recycling Scheme and the Soft Plastics Scheme (Ministry for the Environment, n.d.), and routinely refers to both schemes' existence to support its arguments that mandatory schemes are unnecessary (e.g. Packaging Forum, n.d., 2016a, 2016b).

Lobbying is not necessarily negative; it can be 'grease in the wheels of a well-functioning democracy' or resource-wasting 'sand' (Anderson and Chapple, 2018, p.10). In the cases described, the packaging industry's lobbying behaves as sand because its schemes receive 'significant amounts of public and private funding' in place of their (probably cheaper, more effective) mandatory counterparts (Envision New Zealand, 2015, pp.10). The Ministry for the Environment has previously been open about this either/or approach: for example, opposing a petition to ban single-use plastic bags by citing its preferred 'non-regulatory approach' of 'changing behaviour (through the promotion of slogans such as "Be a Tidy Kiwi")', community involvement, and voluntary initiatives' (Local Government and Environment Select Committee, 2016, p.7).

In the waste policy context, easy wins are issues the public and local authorities (and perhaps even industry) largely support, and which overseas jurisdictions have already successfully adopted.

industries support mandatory policies to address waste, the Packaging Forum does not, sometimes appearing to successfully halt policies otherwise garnering strong public and local government support, like container deposit systems (Packaging Forum, n.d.; Ranford, 2018).

Perceived ministerial deference to business preference is a recurring complaint (Davies, 2009, p.168; Hannon, 2018). In 2006 the parliamentary commissioner for the environment revealed that 'We were advised by a senior MfE official that neither economic instruments nor regulation will be introduced by the Ministry to manage waste unless industry wants these policy tools to be used' (Parliamentary Commissioner for the Environment, 2006, p.55). Also recurrent is an accommodating tendency to 'encourage' business to develop product stewardship schemes (Ministry for the Environment, 2010b, p.2), rather than simply requiring schemes to be developed. A common feature over the last 20 years are 'vague and voluntary'

industry-initiated Keep New Zealand Beautiful and Be a Tidy Kiwi campaigns are domestic examples. Though now independent, both campaigns still work alongside the Packaging Forum. Over \$4 million has been allocated to various anti-littering projects, including Keep New Zealand Beautiful's 'Do the Right Thing' campaign, the Packaging Forum's 'Litter Less Recycle More' programme, the Marlborough Litter Project, and Sustainable Coastlines' litter review (Ministry for the Environment, n.d.).

The Packaging Forum has also secured central government support for an 'ecosystem' of proxy schemes (Envision New Zealand, 2015, p.8) that essentially delay mandatory options, creating the illusion of progress. This 'tokenistic approach' allows industry groups to 'make minimal efforts at implementing product stewardship programs that achieve low return rates, reducing product stewardship 'to an extended PR exercise' (Tombleson and Farrelly, 2016, p.11). The Packaging Forum has received over \$3 million in

Strategising to overcome obstacles

Table 1 summarises progress to date on policy reform under the Waste Minimisation Act. The new minister has acknowledged that the WMA has been 'gathering dust', stating she intends 'to take it off the shelf and start using it' (Sage, 2018d). Her recently announced waste work programme will explore using the WMA to: increase and expand the waste levy; improve waste data; fund onshore waste and recycling infrastructure; and increase product stewardship schemes for problem waste streams (Sage, 2018a). However, the preceding analysis suggests that obstacles to using the WMA are pernicious and that 'good words' do not necessarily engender action (Davies, 2009, p.168). Currently the government lacks a clear strategy to avoid the pitfalls that stymied previous governments, a fact already reflected in some of its policy approaches. Outlined next is a roadmap for gaining and maintaining momentum in waste policy reform.

Table 1: Utilisation of policy levers available under the Waste Minimisation Act 2008

Policy levers	Progress thus far	Outcome
Declare certain products 'priority products', triggering requirement for mandatory product stewardship scheme (ss9, 10)	Two public consultations on possible products to be declared 'priority products': <ul style="list-style-type: none"> • 2009: agricultural chemicals, waste oil and refrigerant gases • 2014: electrical and electronic equipment, tyres, agrichemicals and farm plastics, refrigerants and other synthetic greenhouse gases. 	2009 consultation: Majority of submissions support priority product declaration for proposed products. Many also recommend additional priorities (e-waste, tyres and packaging). 2014 consultation: Majority of submissions support priority product declaration for proposed products (with proviso that any mandatory product stewardship schemes are well designed). A number also identify additional priorities (packaging and/or plastic bags). To date, no priority products declared.
Accredit voluntary product stewardship schemes (s11)	Fifteen voluntary product stewardship schemes developed to date (see full list: http://www.mfe.govt.nz/node/23986/).	As of 2014, voluntary schemes had diverted 1.4% of New Zealand's total waste from landfill.
Control or prohibit the manufacture or sale of products containing specified materials (s23)	2017: Regulations made prohibiting sale or manufacture of personal care or cleaning products containing plastic microbeads. 2018: Government begins public consultations on proposed mandatory phase-out of plastic bags by mid-2019.	
Levy waste disposed of at a disposal facility, at default rate of \$10 a tonne (s26).	2009: This section of the act came into effect in July.	Total revenue raised between 1 July 2009 and 30 June 2016 = roughly \$193 million. However, net waste to levied landfills has increased by 35% since 2009.
Power to prescribe levy rate other than the default rate (ss27, 41)	Power has not been used.	
Redistribute levy income towards projects to promote or achieve waste minimisation (s38)	2009: This section of the act came into effect in July.	Roughly \$85.5 million allocated to the Waste Minimisation Fund between 1 July 2009 and 30 June 2016. Data not collected on tonnes of waste minimised from funded projects.
Redefine 'disposal facility' to expand application of levy to more landfills (s41(a))	Power has not been used.	Levy applies to only 11% of New Zealand landfills, which handle about 30% of the total waste stream.
Minister may set performance standards for territorial authorities' implementation of waste management and minimisation plans (by notice in the <i>New Zealand Gazette</i>) (s49)	Power has not been used.	
Regulatory power to require operators of disposal facilities or any class of person to keep and provide records and information (s86)	2009: regulation made requiring disposal facility operators to keep records and information to enable accurate calculation of amounts of levy payable to operator.	Limited data kept on quantity and composition of waste (including diverted waste) to levied landfills, which is only 30% of New Zealand's total waste stream. Scope of information kept does not include information on what happens to diverted material.

Start with the low-hanging fruit

Given limited public awareness on waste, and a history of industry opposition, the government should first adopt easy wins

carrying low political risk. Recently the leader of the opposition dismissed the government's proposed single-use plastic bag ban as 'low-hanging fruit' (cited in

Woolf, 2018). Certainly, the proposal is neither proactive nor visionary. However, there is logic to tackling easier issues first, provided such actions represent the

beginning of concerted policy reform, not the sum total. In the waste policy context, easy wins are issues the public and local authorities (and perhaps even industry) largely support, and which overseas jurisdictions have already successfully adopted. A plastic bag ban demonstrates these characteristics, but so too do container deposit systems, proactively applying section 23 to other single-use plastics attracting public ire, and raising and expanding the waste disposal levy.

Take action within the present electoral cycle, especially for mandatory product stewardship

The waste work programme's timelines (undisclosed) are critical for predicting

Ideally, the minister should commit to declaring at least one priority product within the present electoral cycle. End-of-life tyres represent an easy win because a comprehensive mandatory product stewardship blueprint already exists (developed by the Tyrewise Working Group with Waste Minimisation Fund funding; see Tyrewise, 2013). While Sage identified end-of-life tyres as a potential candidate for mandatory product stewardship, she also foreshadowed further consideration, triggering exasperation from Tyrewise representatives.¹¹ Rather than investigating further, Tyrewise's proposal should be put to public consultation promptly, with a view to declaring tyres a priority product before the next election. Alongside such

Ideological aversion to mandatory measures should be overcome through greater willingness to discuss them publicly. This topic need not be taboo: the inclusion of mandatory measures in the WMA (passed with cross-party support following two years of select committee debate) indicated a hard-won political consensus regarding their appropriateness for New Zealand. The present minister has at times been overly tentative about discussing mandatory waste policy,¹³ although gradually this appears to be changing. Maintaining strong, unequivocal language regarding key mandatory measures is needed to normalise the concept, prime the public for their use, and allay suspicions about continued susceptibility to backroom lobbying.

Ultimately, democratising the policy creation process is essential not only for triggering policy reform, but also for ensuring that any forthcoming implementation of the WMA achieves the best results possible on a range of measures

Reflect the waste hierarchy in policy priorities

Adhering to the waste hierarchy, which prioritises preventing waste over managing or diverting it, is crucial for circularising the economy. Many of the government's actions thus far continue pre-existing approaches of shoehorning policy towards industry self-regulation and linear end-of-life 'solutions' rather than upstream regulation. In June 2018 the minister announced a \$2.7 million grant to Sustainable Coastlines for more anti-littering activities, and a non-binding, voluntary Plastic Packaging Declaration involving some New Zealand businesses pledging to use '100% reusable, recyclable or compostable packaging by 2025' (Ministry for the Environment, 2018a, p.1). While such measures are not intrinsically flawed (though their cost-effectiveness is questionable), they must be accompanied by mandatory mechanisms to minimise waste.

whether the programme can surmount ministry consultation cul-de-sacs and transition from investigation to action within one electoral cycle. In particular, New Zealand cannot continue postponing mandatory product stewardship schemes. The programme's planned consideration of product stewardship is predominantly investigative,¹⁰ so is not yet significantly distinguishable from previous Ministry for the Environment scoping exercises. The habit of conducting consultations and working groups, fostering the impression action will follow, only to ignore the findings and prolong the status quo has already partially eroded the goodwill the ministry relies on for policy input (Hannon, 2018, p.16). A prolonged investigation over multiple electoral cycles also risks delay, repetition or reversal should the minister or government change.

a declaration, a longer investigative process for other, less scrutinised potential priority products (i.e. e-waste, agricultural waste and plastic packaging) may well be appropriate, but should be initiated soon.

Remove barriers to long-term waste policy progress

Certain matters obstructing waste policy progress require reform to future-proof waste minimisation. Improving New Zealand's waste data is paramount; postponing this action has already squandered decades of potential data gathering, triggering ripple effects of delay throughout waste policy.¹² Improving central government accountability is also necessary, including reintroducing national waste minimisation targets into the New Zealand Waste Strategy (WasteMINZ, 2018, p.8).

In this respect, the waste work programme is vague about the desired policy tools for circularising New Zealand's economy. Expanding the levy and redirecting the Waste Minimisation Fund towards improved onshore recycling and recovery infrastructure is clearly a focus. While absolutely necessary, increased subsidies for these activities remain a partial and expensive approach to waste minimisation, especially for small economies like New Zealand where

circularising may be more efficiently achieved through policies that reduce waste at source. The country's high per capita rate of waste sent to landfills also suggests that potential gains can still be made by reducing wasteful consumption. These factors also support foregrounding mandatory product stewardship and use of section 23 in the policy mix.

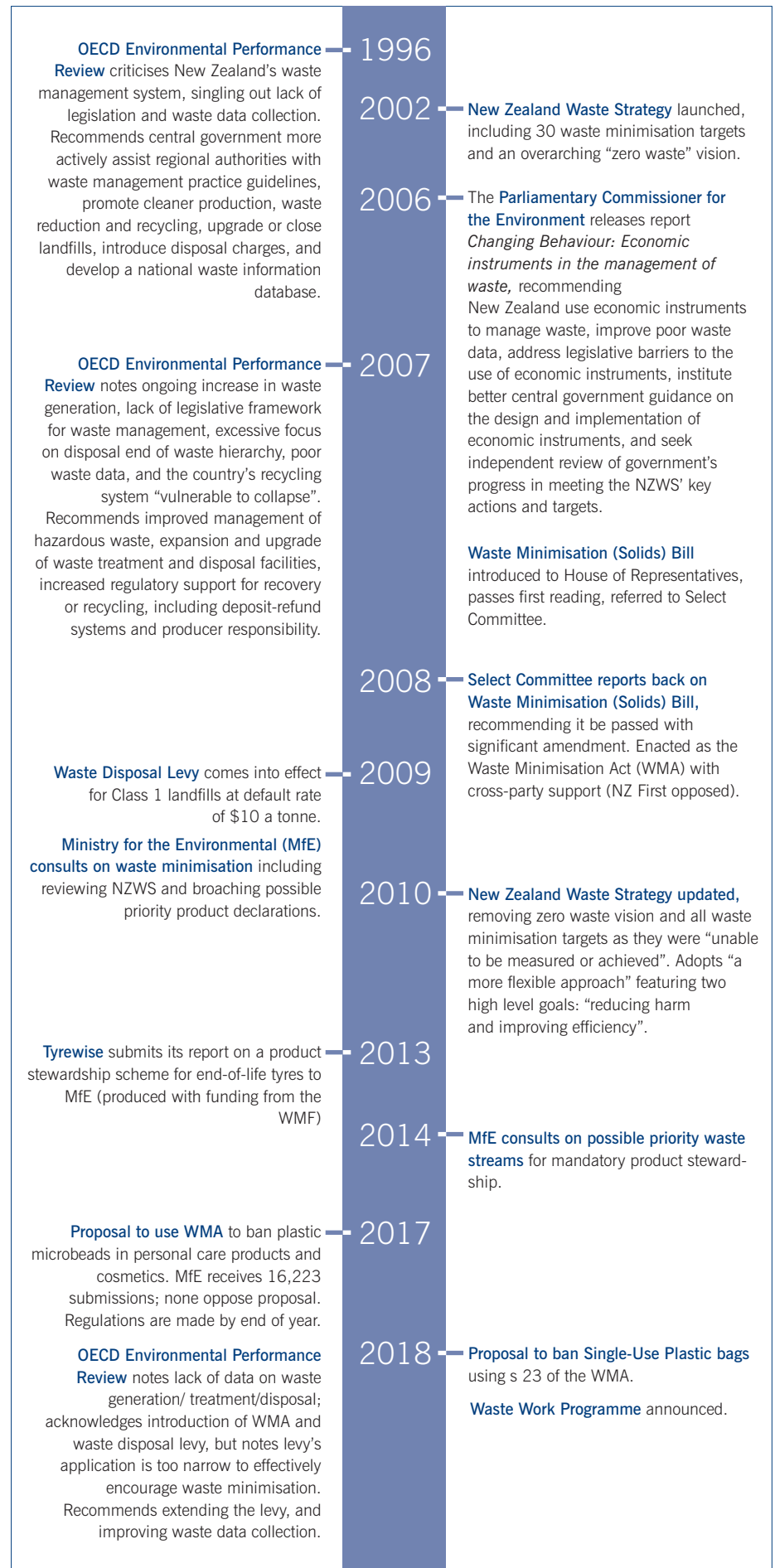
Democratising the policymaking process

History indicates that broaching mandatory measures will provoke the packaging industry's opposition. Government should prepare to respond by reinforcing mandates through more robust communication with other stakeholders. This is no call to sideline industry, but simply underscores that industry's role in developing schemes to regulate its own practices should occur 'in co-ordination with non-industry not-for-profits or environmental groups, and with government oversight, and not in opposition to them' (Tombleson and Farrelly, 2016, p.11).

Fostering opportunities for relevant stakeholders to support effective, rationalised use of the WMA is also needed to surmount knowledge and governance gaps central government faces in better managing particular waste streams or recycling systems. Stakeholders' primary opportunity for deeper engagement with the Ministry for the Environment is through the Waste Minimisation Fund process, but further avenues to shape proactive policy setting are also appropriate. The present government's establishment of a taskforce working with local government and industry representatives to address the present recycling crisis is heartening (Sage, 2018d), and the approach could also be applied to policy development or to securing a shared understanding about the kind of waste system that policy reform and investment should strive for.

However, ensuring plurality and representativeness of voices is critical. Failure to implement policies garnering local government, non-profit and public support demonstrates that central government must democratise how it listens. Particular areas requiring attention include overcoming the central-local government disconnect, and leaving greater room for volunteers, not-for-profits

Figure 3: Three decades of New Zealand waste policy events



and community recyclers to contribute their specific expertise on various issues, including how best to develop New Zealand's recycling infrastructure. The minister should also be prepared to scrutinise instances where ministry advice deviates markedly from local government perspectives. Ultimately, democratising the policy creation process is essential not only for triggering policy reform, but also for ensuring that any forthcoming implementation of the WMA achieves the best results possible on a range of measures (social, environmental, economic).

Conclusion

New Zealand's waste and recycling system faces numerous problems exacerbated by decades of government neglect. The last decade has been particularly inexcusable given the Waste Management Act's available policy tools, which could have facilitated New Zealand catching up with international waste policy innovations. Instead, policy stagnation has proliferated market failures, path dependence, fragmentation and inconsistency throughout New Zealand's waste management system. The present government's stance gives cause for

optimism, particularly the minister's approval of the circular economy concept and avowed willingness to use the WMA, manifested in the recently announced waste work programme. However, to effect a sustained break from New Zealand's 'rubbish record on waste', central government must transcend persistent obstacles to implementing key waste policies and successfully transition from investigation mode to concrete policy action sooner rather than later. This includes urgently improving New Zealand's waste data, devising national best-practice standards to guide stakeholders, increasing and expanding the waste levy, and adopting mandatory measures to address problem waste streams.

1. Including three successive OECD environmental performance reviews over three decades.
2. That is, between 1 July 2009–30 June 2012 and 1 July 2013–30 June 2016.
3. A recent example occurred on the West Coast following Cyclone Fehi (Neilson, 2018).
4. Currently New Zealand exports roughly 50% of paper, 90% of plastics and 90–100% of metals for recycling (Wilson et al., 2017, p.111).
5. Defined as Class 1 landfills accepting household waste – just 11% of New Zealand's landfills.
6. For example, uptake of their services generally depends on individuals' willingness to pay, while many community recyclers struggle to compete with major waste companies' economies of scale and market dominance (Davies, 2009).
7. Sub-section 86(b) creates the regulatory power to require any class of person to keep and provide records and information that would assist the compilation of statistics

- relevant to waste management and minimisation.
8. Levy revenue is also directed to territorial authorities to spend in accordance with their waste management and minimisation plans (ss30–3).
9. When announcing the waste work programme, Eugenie Sage (2018d) referred to Ministry for the Environment surveys showing that half of respondents rate waste's environmental impacts as one of the top three issues facing New Zealand over the next 20 years. Prime Minister Ardern confessed when announcing the proposed ban on single-use plastic bags that 'I ... underestimated the strength of feeling among everyday New Zealanders around this issue ... The biggest issue I get letters on from the public are about plastics' (Radio New Zealand, 2018).
10. The press release announcing the waste work programme states that the Ministry for the Environment will lead work on 'whether to implement a greater mix of voluntary and mandatory product stewardship schemes' (Sage, 2018a).
11. David Vinsen, a member of the working group, stated: 'They'll be talking ... to the same people about the same thing, and they'll get the same outcome – when in fact what they have now is a turn-key solution' (cited in Reymer, 2018).
12. For example, a report into better management of electronic waste noted that it could not recommend a mandatory product stewardship scheme because severe data shortages prohibited assessment of the scale of the waste stream and any harm it might be causing (SLR Consulting NZ, 2015, pp.iii-iv).
13. For example, Sage recently highlighted product stewardship as key to 'how we'll make the transition' to a circular economy, but referred only to voluntary schemes (Sage, 2018b, p.10). She has also remained mostly tight-lipped about container deposit systems.

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