Submission

By

THE NEW ZEALAND INITIATIVE

to the Ministry for the Environment

on

the discussion document "Transforming Recycling: Container Return Scheme"

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Prepared by:
Eric Crampton, Chief Economist
The New Zealand Initiative
PO Box 10147
Wellington 6143
eric.crampton@nzinitiative.org.nz

1 INTRODUCTION AND SUMMARY

1.1 This submission in response to the Ministry for the Environment's discussion document is made by The New Zealand Initiative (the **Initiative**), a Wellington-based think tank supported primarily by major New Zealand businesses. In combination, our members employ more than 150,000 people.

1.2 The Initiative undertakes research that contributes to the development of sound public policies in New Zealand and the creation of a competitive, open and dynamic economy and a free, prosperous, fair and cohesive society.

1.3 The Initiative's members span the breadth of the New Zealand economy, including some who either use containers or would otherwise be affected by the scheme. The views expressed in this submission are the views of the author, not those of our members.

1.4 Our submission focuses on the Container Deposit Return Scheme rather than other aspects of the Document; some of what we say about the Scheme applies more broadly.

1.5 In summary, we submit:

(a) The Scheme should be abandoned. The only real policy problem that it addresses is litter, but the cost-benefit assessment underpinning it is inadequate;

(b) The primary benefits asserted in the cost-benefit analysis underpinning the Scheme are $2.3 billion in presumed gain from reduced litter. The figure depends on litter cost figures from abroad that have not been calibrated against New Zealand's levels of litter. The asserted volume of litter for New Zealand that could potentially be prevented is the equivalent of over 900 soda cans per year for each and every person in New Zealand, including infants. The figure seems implausible. More realistic assessments would substantially reduce the measured benefit of litter reduction;

(c) If Government is determined to go ahead with the scheme, it should pursue alternative ways of running the scheme that would be far less costly.

2 CONTAINER DEPOSIT SCHEMES – WHAT IS THE POLICY PROBLEM?

2.1 The Discussion Document suggests that the aim of a container return scheme is to reduce litter, to reduce the number of containers that are stockpiled or landfilled, and to increase container recycling and reuse.

2.2 Litter is a policy problem that can be worth addressing.

2.3 Disposal of waste in landfill is not a policy problem so long as landfills appropriately charge for waste disposal. If landfill sites charge households for garbage disposal at rates reflecting the cost of commissioning, running, and decommissioning sites, use of landfill is no more of a public policy problem than use of any other resource. And if landfill is not priced properly, improving pricing would have benefits well beyond containers. Because greenhouse gas emissions from landfills are already captured by the Emissions Trading Scheme, landfill operators already have appropriate incentive to mitigate those emissions and will do more to do so as carbon prices rise.

2.4 Similarly, recycling rates are not a public policy problem in need of addressing. Materials that are valuable for recycling can be picked up by Councils or others.

Private waste contractors can separate recyclable waste from existing waste streams if its value exceeds the cost of waste-separation.

2.5 Caution is required in thinking through how to consider costs.

2.6 The interim Regulatory Impact Statement misstates the definition of negative externalities at paragraph 34, or at least as it applies to policy.

2.7 The RIS asserts that a negative externality obtains when costs are not borne by the decisionmaker. This is only partially true. Costs that are part of a contractual nexus and are intermediated through the price system do not count as a policy-relevant externality if one uses the definition employed in textbooks like Rosen's; costs that apply through a budget constraint rather than through a utility or production function do not count as a policy-relevant externality if one uses the definition provided by Buchanan & Stubblebine in their definitive 1962 treatment.

2.8 To put it most simply: if I bid against you at an auction for a house, I do not bear the costs I impose on you either by causing you to pay more for the house, or by buying the house you otherwise might have bought. I impose an external cost on you, but not a policy-relevant externality. By contrast, if I start playing very loud music in the middle of the night and prevent you, my neighbour, from sleeping, the external cost I impose on you is a negative externality that is potentially policy-relevant. The difference is critical for policy, and the RIS seems ignorant of it. If a primer is helpful, the notes I provided to my 200-level students on the topic are available. I would encourage the writers of Regulatory Impact Statements who assert negative externalities as justification for policy intervention be at least passingly familiar with what the term means.[i]

2.9 Correcting the RIS here matters because the error substantially affects problem definition. Wasteful resource use is not an external cost so long as the 'waster' of the resource has paid for the resource and other separate market failures do not apply. The price paid for the materials fully compensate society for the opportunity cost of the materials – a direct implication of the first fundamental theorem of welfare economics. Environmental harms, by contrast, can be negative externalities. It isn't the 'waste' that is the external cost, but any real environmental harm – or the displeasure at seeing litter lying around.

2.10 The Document and accompanying cost-benefit assessment suggest that a cleaner stream of recyclable containers through a return scheme is a benefit worth pursuing. But if that benefit were substantial, would private waste contractors not offer lower prices to households that separated their waste appropriately?

2.11 The Document here implies that existing waste companies are throwing money away by failing to encourage households and businesses to separate their waste in ways that enable greater recycling. If the cost to households and businesses of separating containers from other waste, combined with the cost of collecting separate waste streams, is less than the increased value of the separate stream of recyclable materials, there are obvious gains from trade. The waste companies could charge a lower fee for collection from households or businesses separating their trash in that way, and both sides of the transaction would be made better off. If they are not doing that already, that is evidence against the proposition that

separated waste provides value in excess of cost, and evidence in favour of that the Document has misconceived relevant costs. Why would the Ministry believe that waste collection companies would wish to throw money away?

2.12 None of these effects are policy-relevant externalities. They are part of contractual relationships between households or businesses and waste disposal companies.

2.13 As consequence, reductions in volume of containers going to landfill is not really an objective in need of pursuit through policy.

2.14 A similar logic applies when considering Councils without their own recycling schemes, or Councils that do not separate glass from other recyclables, or Councils that do not separately collect recyclable waste from downtown business premises. If the value of recyclable materials exceeded the cost Councils face in collecting them, as compared to their costs in running landfills, or if the value of a stream of recyclable materials were substantially augmented by separating glass from the rest of the stream, why would Councils not already be providing this service? If the material really has value in excess of cost, Councils or other businesses would already be collecting it and on-selling valuable materials. If they are not, either the Council is throwing money away, or the cost of collecting the materials exceeds their value. In the latter case, forcing the adoption of a recycling scheme would itself be wasteful. It is an odd definition of sustainability that would require councils to drive more trucks around their districts to collect waste that is less valuable than the cost of collecting it.

2.15 To put the question most plainly: if the value of recyclable cans is so great, would we not expect to see can drives as part of non-profit groups' fundraising efforts? When newspaper and other materials were valuable, groups like the Boy Scouts would run newspaper drives. Downtown cafés and restaurants go through a lot of cans, bottles, and other containers. It would seem fairly simple for community group volunteers to already be picking this stuff up for recycling, if councils were not doing it, if the materials actually had real value. Community groups tend not to value their volunteers' time very highly. If the materials are not even being picked up from downtown businesses at that low cost, it is rather implausible that more expensive and extensive efforts to collect them would make sense.

2.16 Reducing use of landfill and increasing recycling rates could be desirable outcomes of policies addressing real market failures that otherwise inefficiently cause too great a reliance on landfill or too little recycling, but there is no obvious market-failure case for making them objectives in their own right.

2.17 Strategies and policies aimed at reducing litter are another matter entirely. Littering is a canonical example of a real negative externality. Measures that reduce littering, and that are cost-effective to that end, can provide real benefits. But getting the numbers right matters.

3 LITTERING: GETTING THE NUMBERS RIGHT

3.1 The Interim Regulatory Impact Statement does not include a cost-benefit assessment as policy options are not yet sufficiently developed.

3.2 Sapere produced a cost-benefit assessment of a container deposit return scheme based on setting 816 container return facilities across the country, including 662 reverse vending

machines. It asserts $3,667 million in benefits over thirty years, weighed against an estimated $2,276 million in programme costs.[ii]

3.3 The costs modelled by Sapere will be contingent on the type of system it discusses – which includes a far greater density of reverse vending machines than may be seen overseas. The benefits, if accurately estimated, might apply to other schemes that are comparably effective in discouraging litter.

3.4 By far, the largest enumerated benefit is $2,348 million in experienced increases in household wellbeing driven by reduced littering. Without that benefit, the programme would obviously have substantial net costs.

3.5 The $2,348 million estimate is very poorly established.

3.6 The CBA begins by trying to assess the volume of litter that might be prevented by the scheme. It notes that, in 2016, Keep New Zealand Beautiful collected 190,000 tonnes of litter. It takes that volume as indicative of the annual volume of total litter in the country. However, the 2016 work does not provide a breakdown of the proportion of litter consisting of containers. So the CBA then takes the 2019 Keep New Zealand Beautiful litter audit, which does provide by-type breakdowns, as likely representative of the 2016 waste composition. Multiplying the container waste fraction in 2019 by the mass of waste in 2016 gives an estimate of the mass of container waste that might annually be diverted by a container deposit scheme.

3.7 This strategy leads to some incorrect conclusions.

3.8 In 2016, KNZB ran a substantial and laudable campaign to collect litter. I knew that KNZB had undertaken a very large clean-up effort in that year, so I contacted them for more details.

3.9 Heather Sanderson at KNZB told me, in response to my query, my emphasis added:

3.10 "Our 2016 data was derived over a 12 month period of clean up initiatives. Many of our branches undertook year round clean up events in 2016 as well, with several of our larger branches undertaking stream restorations and stream clean ups. **There were clusters of large items found that contributed to the tonnage (for example, quite a few trolley carts were located during several stream clean ups)**. So, in a nutshell, the data collected in 2016 differs from the National Litter Audit 2019 data, as the latter entailed a robust methodology and on the ground researchers as opposed to citizen science.

We have annual stats on our year round clean ups and volunteer numbers, I can have the team pull them up for you if you like? **It should be noted that comparatively, 2016 had the most volume that we've ever seen and in year since we haven't come close to that number.**"

3.11 What does this mean? In 2016, KNZB undertook superb efforts to clean up years' worth of litter. The mass they collected represents an accumulated stock of litter: years' worth of litter. It cannot be taken as any kind of representation of an annual flow of litter that might potentially be diverted by policy.

3.12 Further, and as importantly, that immense mass of litter was of a very different composition than the litter collected in 2019. The 2019 survey sampled litter at a very different set of sites. They sampled 413 sites including car parks, highways, industrial sites, public recreational space, areas near railways, residential areas, and retail areas. They did not undertake a stream clean-up. It picked up a lot of cigarette butts (greatest proportion of litter by count), disposable nappies (greatest proportion by volume), and glass beer bottles (greatest proportion by weight). They specifically note that they did not apply

weight measures for illegal dumping objects identified during the audit;[iii] illegal dumping objects may have been part of the 2016 mass.

3.13 The strategy employed by Sapere consequently substantially overstates the mass of litter that might be diverted to recycling by any container deposit scheme. The mass collected in 2016 was an accumulated stock of years of litter and illegal dumping objects, not an annual flow of litter. The 2016 mass was compositionally different from the 2019 survey, so any application of the proportion of container waste from the 2019 survey to the 2016 mass would overstate container waste even if the 2016 mass represented an annual flow, rather than the stock of waste that it did represent.

3.14 Sapere compares the mass it derives using this method to the mass of unaccounted containers – containers known to have been sold but not collected by recycling programmes – and concludes that the rough equivalence of the figures suggests a reasonable representation of the annual mass of littered containers. The far more reasonable conclusion is that these containers wound up in landfill, and that many councils are not great at tracking the mass of containers that they recycle.

3.15 A simple sanity-check readily demonstrates that the figure cannot be taken seriously. If 36% of litter by weight is containers, and we collectively produce 190,000 tonnes of litter per year, that means that each of us on average, across all 5.1 million of us including infants and those in nursing homes, produce about 13.4 kilograms of container litter per year on average. That is the equivalent of about 67 empty beer bottles, or about 27 empty wine bottles, or over 900 empty soda cans. Even as a quantity of litter among those who do litter the figure seems implausible, let alone as a mass across the entire population including those tidy Kiwis who never litter.

3.16 A separate survey found that at observed sites, 84% of people disposed of items correctly and 16% of people litter.[iv] If 16% of the population is responsible for the mass of litter here asserted, the mass per littering person is 6.25 times greater: over 83 kilograms per litterer per year, or about 167 empty wine bottles per year – just over three per week. Or over 15 empty soda cans per day. It seems implausible.

3.17 Communication with one study author confirmed that they had not run that simple sanity check, nor had they checked with KNZB about whether it made any sense at all to apply the 2019 KNZB proportions to the mass collected in 2016.

3.18 This figure will not directly affect Sapere's estimate of the warm-glow benefits of reduced littering. We will come to that figure. But it provides an anchor point: if there really *were* this much litter being produced, perhaps Sapere's asserted benefit figure could be plausible. But there isn't, and it isn't.

3.19 The incorrect litter mass figure may more directly affect other, smaller figures.

3.20 Sapere asserts that the diversion into recycling from litter, as well as presumably from landfill to recycling, would provide about $7 million per year as value of recovered materials – even under the heroic assumptions about the quantum of litter produced. Glass is of no value at all and constitutes the largest proportion of litter by mass – according to the KNZB audit. The Scheme would have the country spend over two billion dollars to collect waste valued at only $7 million on a measure that overestimates the mass of containers that would potentially be diverted away from litter and into recycling by the scheme. The $7 million figure could be correct, however, if it does divert containers from landfill to recycling – again, the overestimate of littered materials most likely reflects containers that actually wind up in landfill.

3.21 Sapere's measure of welfare gains from recycling could more materially be affected. Sapere asserts welfare gains from increased recycling of $912 million – the average of two figures.

3.22 The first figure, from PWC, sets benefits at $1.5 billion – based on a willingness to pay measure for percentage increases in waste packaging recycled, and estimated volumes that would otherwise be littered or disposed of in landfill. But households disposing of containers in household refuse for landfill in places where recycling is readily available seem unlikely to enjoy substantial warm-glow benefits from increased recycling. Benefits from containers diverted from litter to recycling seem more plausible, but those are the weights that are overestimated.

3.23 The second figure, derived from work by Covec, finds that surveyed households were willing to pay $1.68 per week to recycle paper, plastic, and glass. Households were asked how much they would be willing to pay to ensure their household's rubbish were recycled in an environmentally responsible way. They were not asked how much they were willing to pay to ensure other households' waste were recycled in an environmentally friendly way. And households putting their own waste in the rubbish bin rather than into the recycling bin demonstrate that they do not receive any value from recycling. It seems inappropriate to apply this value to the diversion of households' waste from a rubbish bag into a recycling stream through the intermediation of a deposit return scheme, though it may appropriately represent how much a household would be willing to pay for the weekly collection of a recycling bin. Sapere correctly notes that cans are not included in this measure and so, to that extent, the measure may underrepresent willingness to pay for additional recycling. But the more substantial problem would be the application of the figure to waste that a household has already decided to put into a rubbish container rather than a recycling container.

3.24 The effect is to overestimate the warm-glow benefits of increased recycling.

3.25 The most substantial problem remains the unreliability of the actual figure used to represent the welfare gain from reduced litter, and which makes up the vast majority of the tallied benefit. Sapere estimates the benefit as follows.

3.26 Sapere cites a 2010 PWC study finding households in Australia were willing to pay, on average, $4.15 for a one percent reduction in litter and $83 for a 20% reduction. They adjust the figures to provide current New Zealand dollars and say that a 14.5 percent reduction in litter, here, would be worth $59 per household per year. They cite a University of Leeds study finding willingness to pay for a one point improvement on a 10-point litter scale. A one-point reduction was worth £47.40; Sapere concludes it is the equivalent of $102 per household per year for a 14.5 percent reduction in litter in New Zealand. They then average across the two figures.

3.27 The problem in both cases is that the value of a percentage reduction in litter is highly unlikely to be independent of the volume of litter that is prevalent. Imagine that a person sees, on average, one littered can per day every day and no other litter. Is that person likely to provide the same valuation of a 10% reduction in litter as someone who sees 50 or 100 littered cans per day? It is not immediately obvious how willingness to pay for a 10% reduction in littering varies with the overall volume of litter. If national litter output for the entire year consisted of 10 cans in total, it seems highly unlikely that households would be willing to pay that much for a 10% reduction – one can. At higher levels of litter, the figures could be plausible. And beyond some threshold, perhaps the problem is big enough that even a 10% reduction would not be noticeable.

3.28 Some benchmarking seems necessary to determine whether litter prevalence in the places surveyed are in any way comparable to litter prevalence here if we wish to know whether values of reductions in litter derived from survey measures in those places are comparable to the value that might here be enjoyed from a similar percentage reduction in litter. No such benchmarking seems to have been undertaken.

3.29 Other plausibility checks may be in order. The Australian study assumes linearity in benefits of percentage reductions in litter. If a 14.5% reduction in litter is worth $59 per household per year, on the lower of the two estimates, a 100% reduction in litter would be worth just over $400 per year. It is entirely plausible that higher-income, environmentally-aware households would be actually willing to spend $400 per year for the abolition of litter for the year. But does that seem likely for all households on average? Or just for households in the top percentiles of litter-aversion? Recall that the government just provided $350 to households in the lower half of the income distribution in what was meant to be a substantial contribution toward increased living costs. Does it seem likely that households in that cohort, if offered the choice, would prefer the abolition of litter for 2022 – or the $350?

3.30 In short, the values placed on litter reduction are implausible. The per-household values over thirty years might approach plausibility if litter volumes really were as high as would be implied by the container litter mass estimates used by Sapare, but those figures simply are not credible. And the cost-benefit assessment hinges entirely on these values. They should not be relied upon for policy purposes.

3.31 If the welfare gain from reduced litter in the Sapere Cost-Benefit assessment were half of what had been estimated, the benefit-to-cost ratio would reduce to about 1.1 to 1. If the welfare gain from increased recycling were slightly overestimated, or costs elsewhere slightly underestimated, the benefit-to-cost ratio would drop below 1. More traditionally, higher benefit-to-cost ratios have been viewed as prudent in case of these kinds of issues.

3.32 Further, we should consider that normal Council waste and recycling collection schemes would need to continue as normal. Trucks would need to continue circulating weekly to each household, to collect waste, and other trucks would need to continue circulating on their regular schedule to collect non-container recyclable waste. Much of these costs are fixed per-route based on frequency, rather than based on the weight collected at each house. The Scheme effectively proposes adding a whole new transport cycle to existing waste transport cycles: existing rubbish collection services will have to continue for non-container waste, and every household will wind up having to take repeated trips either to collection facilities or to reverse vending machines. It does not make much obvious sense, except potentially as a way of reducing littering.

3.33 If the government is determined to go ahead with a container deposit return scheme regardless, a more targeted approach could be warranted. Any scheme would have to be far less costly than the scheme analysed by Sapere if it is to be likely to pass any reasonable cost-benefit assessment.

4 ADDITIONAL CONSIDERATIONS

4.1 The Document proposes a 20 cent deposit, plus an administration fee. It suggests the scheme might cost 8.8 cents per container.

4.2 While 8.8 cents sounds like a small amount, recall that beverages are often sold in 12 or 24-packs. The additional cost per dozen containers would be over a dollar.

4.3 Other potential costs are not here canvassed but are real. If New Zealand's deposit is double the level of that in Australia and is more extensive than that in place in Australia,

labelling suddenly becomes more costly for all container manufacturers. Products either need different labelling for the two markets, or they need more expansive labelling listing a separate line for New Zealand alone. In the former case, we lose flexibility in supply lines because products would not be able to be rerouted between the two markets as market conditions varied.

4.4 Imported beverages also become a lot more complicated, and especially when looking at more niche products and smaller retailers. It is currently entirely possible for a Kiwi to order products not available in New Zealand from retailers abroad. Would deposit requirements apply to these direct-to-consumer imports? If so, how would it be administered? If not, how would a de minimus threshold be established? How would the scheme work for niche retailers who import beverages directly from abroad? The reporting and administration burden could be far more substantial than pennies per can if the retailer would have to apply a bespoke deposit sticker to containers that had not been designed with the New Zealand market in mind.

4.5 A scheme that imposes a high per-container fixed cost with potentially substantial administrative overhead will wind up benefitting large, homogeneous, up-market products at the expense of smaller, niche, or down-market products. The deposit, and its administrative fees, add a larger proportionate increase to the cost of cheaper products than to the cost of more expensive products.

4.6 Further, a substantial difference in deposits between New Zealand and Australia could invite arbitrage between the two markets for empty containers that can be transported cost-effectively across the Tasman. Australia's deposit is 10 cents; New Zealand's proposal is 20 cents.

4.7 It sounds absurd – and the absurdity of it was parodied in an excellent classic episode of Seinfeld. Kramer and Newman hauled empty bottles from New York, where the deposit was 5 cents, to Michigan, where the deposit was 10 cents. They could only make the numbers work by abusing Newman's access to postal vehicles. But there have been real cases since where this has happened – even including the printing of fake barcodes so that ineligible cans would be accepted in automatic return machines.[v]

4.8 Any container return scheme will have to make provision for bulk returns of crushed cans. If it does not, the scheme will be very costly for cafés and restaurants, and for anyone else who is not inclined to haul small volumes of empty containers regularly back to reverse vending machines. But if it does, it invites people to crush cans in Australia, load them onto a container ship, and bring them to New Zealand as scrap metal.

4.9 While a nine NZ-cent per-can difference in deposits sounds like it would be unlikely to drive that kind of scheme, the scrap metal value of a can is only about $0.015 NZD. Ingot Scrap Metals, in Hutt, currently pays $1.00/kg for aluminium cans: the equivalent of about $0.015 per can.[vi]

4.10 Has the Ministry checked whether it would be cost-effective for someone to arbitrage across the difference in deposits between Australia and New Zealand? It seems the kind of risk that should have been at least considered before proposing a deposit that is double that which applies in Australia.

4.11 An empty soda can is about 14.7 grams. $0.20 NZD is $0.182 AUD, so the real difference in deposit is $0.082. Someone could earn $5,583 per tonne of crushed cans shipped across the Tasman. A standard 40' shipping container has volume of 2350 cubic feet, which on a rough measure could handle 3.3 tonnes of crushed cans. So a 40' container of crushed Australian cans is worth about NZD $18,800 in arbitrage. Does it cost less than that to ship

a 40' container of crushed cans across the Tasman? How big of a profit opportunity does the government here wish to provide to can-smugglers?

4.12 A container deposit return scheme that collects funds in advance of containers being sold, and only pays out deposits on containers that are returned, will wind up with substantial surpluses from containers that continue to wind up in landfill. If that scheme is not administered by a not-for-profit with a narrow purpose, restricted against maintaining surpluses or dispersing revenues, it will turn into a slush fund for other purposes. Any scheme should be administered by a managing agency setting fees, material-by-material, reflecting the actual net costs of the scheme for each material; the agency's board should include substantial representation from industry to ensure that the scheme remains targeted at its narrow purpose rather than turning into a mechanism for funding other purposes – as well as to ensure that other fishhooks can quickly be identified and resolved.

5 AN ALTERNATIVE APPROACH

5.1 Sapere's work demonstrated that the largest potential benefit of a container return scheme is through reduced littering. The value of collected materials is minimal, and reductions in reliance on landfill are not a particular benefit if landfill operators charge appropriately for landfill use.

5.2 The policy described in the Document, and in Sapere's analysis, sounds like a scheme designed to impose substantial deadweight costs across an entire sector, to provide concentrated benefits to a few waste management companies and reverse vending machine suppliers. How much sway did suppliers of reverse vending machines have in scheme design?

5.3 A scheme reliant on hundreds of Reverse Vending Machines in supermarket parking lots across the country will be high-cost and will prove difficult to implement. Kids running through supermarket car parks to get collected cans to a machine will be in harms' way: it would be great if drivers backing out from supermarket car parks were more careful and watched for children, but they do not always do so. Encouraging more kids into supermarket car parks may be a tragic mistake. Greater reliance on bulk collection depots may be more advisable, and lower cost.

5.4 A pared-down, less costly scheme could focus on the larger contributors to litter, rather than all beverage containers, and focus on the materials least likely to already be being picked up for their scrap value.

5.5 Metal drink cans do have some scrap value, as noted in 4.9. It is not uncommon to see people collecting scrap cans for their value in recycling. Glass has no value and so is not so-collected. It is also a bigger problem when littered, as compared to metal cans: glass shards from littered bottles are dangerous for pedestrians and for bicycle tyres.

5.6 If glass beer bottles are the largest contributors to litter by weight, and if litter is the largest actual policy problem that the government here seeks to address, it may make more sense to work with the beer industry to develop an industry-led container return scheme focused on glass beer bottles. If that scheme proves successful, it could prove a model for others and could be extended. If it does not, it is unlikely to work elsewhere.

5.7 But a more complete rethinking may be in order. If the first-order policy problem is littering, we might ask whether greater use of infringement notices for littering might be a first-order solution. Enforcement of littering provisions seems haphazard. Stuff, in 2016, found high variability in enforcement across councils: Hutt Council recorded more than $100,000 in littering fines from 2012 to October 2016; Wellington recorded trivial levels of fines, and neither Porirua nor Upper Hutt issued any littering fines over the interval.[vii]

5.8 Might it be worth checking whether improved litter enforcement could do the job more cost-effectively than a scheme that would, in the first analysis provided in the document, cost about 8.8 cents per container to run?

6 CONCLUSION

6.1 The Document suggests a container deposit return scheme as a way of reducing reliance on landfill, reducing litter, and increasing recycling. Of these, only reducing litter is a substantial policy concern. The scheme is extremely unlikely to provide litter-reduction benefits in excess of costs. And, as proposed, it will impose substantial additional risks and burdens.

6.2 The Scheme, as proposed, is best described as a mechanism for generating deadweight costs while providing a transfer to waste management companies and reverse vending machine suppliers.

6.3 A more direct solution to litter problems may be available. Some of the resource that this document proposes be put to a container deposit return scheme could instead be put to enforcing existing rules around litter. Increased fines are unlikely to be the best solution: increasing the likelihood that littering draws fine or sanction will be more effective than increasing the value of a fine that is rarely applied, and may be even less likely to be applied if the fine is at a level considered to be unjust relative to the magnitude of the offence. Increasing the likelihood of being caught would be more effective. If combined with an option to pay off one's fine by spending time picking up litter, it could both reduce the amount of litter produced and help remove existing litter.

6.4 We suggest abandoning the scheme in favour of greater enforcement of existing sanctions against littering. If the scheme does go ahead, we strongly encourage that any deposit be aligned with Australia to reduce packaging compliance costs and to reduce the likelihood of rorts taking advantage of the artificially-induced difference in price of scrap containers between Australia and New Zealand. We further suggest that any Scheme be administered by a non-profit, limited-purpose agency, restricted against maintaining surpluses or providing distributions from its revenue, and required to set fees per-material reflecting actual administrative costs. Its governance should include substantial representation from within the beverage industry.

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[i] Externalities: A Primer. 2012. Available at https://offsettingbehaviour.blogspot.com/2012/06/externalities-primer.html . Note that the author did teach market failure theory for over a decade at the University of Canterbury, and lectured on it as well as part of the course he covered for Victoria University of Wellington.

[ii] Davies, Preston and Ben Barton. 2022. "A Container Return System for New Zealand". Sapere. Available at https://environment.govt.nz/assets/publications/A-container-return-system-for-New-Zealand-cost-benefit-analysis-update.pdf

[iii] Keep New Zealand Beautiful. 2019. "National Litter Audit". Available at https://www.knzb.org.nz/wp-content/uploads/2021/03/KNZB_NLA2019_website.pdf . See p.30.

[iv] See "Research into attitudes to waste and recycling", available at https://environment.govt.nz/facts-and-science/waste/research-into-attitudes-to-waste-and-recycling/#littering-behaviours-and-motivations

[v] See this report by CBS news, for example, https://www.cbsnews.com/news/michigan-man-guilty-in-seinfeld-esque-can-return-scheme/

[vi] IngotMetals. https://www.ingotmetals.co.nz/scrap-metal-prices/ . Prices current as of 22 May.

[vii] Cowlishaw, Shane. 2016. "Revealed: The cities where you are most likely to get fined for littering". *Stuff*. 27 November. Available at https://www.stuff.co.nz/environment/86720171/revealed-the-cities-where-you-are-most-likely-to-get-fined-for-littering