

Regional Landfill Business Unit for the Nelson and Tasman Region

Public Version

Prepared for

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Authorship

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Executive Summary

1. The Nelson City Council (NCC) and the Tasman District Council (TDC) have agreed in principle to form a regional landfill business unit (RLBU) for the purpose of jointly managing the only two existing landfills in their combined region. The proposal involves:
 - a. Establishing a Joint Committee to oversee the landfill interests of both Councils subject to well defined governance arrangements;
 - b. Mothballing the TDC landfill at Eves Valley which will in any case be full within 3 years in the absence of further significant capital expenditure; and
 - c. Diverting all waste in the region to the NCC landfill at York Valley which would then have around 15 years of service life.
2. I have been asked by counsel for the two Councils to provide an independent expert economic assessment of the general effects of this proposed arrangement on competition in the relevant market(s), and more specifically on the public benefits and detriments of the proposal. My assessment has been informed by documentation provided by the Councils, my own prior experience in the relevant sectors, and previous competition assessments in the waste industry.
3. The Councils' proposal would extinguish their current competition with each other for commercial customers in a regional landfill market. As a result of the output restriction and setting of prices by the Joint Committee that will result from the proposal, there is likely to be a breach of s27 via s30 of the Commerce Act 1986 if the proposal were to proceed. Breaches of ss27 and 30 can however be authorised by the Commerce Commission if the public benefits outweigh the detriments.
4. I have assessed the public benefits and detriments of the RLBU proposal against a counterfactual scenario in which both Councils continue to provide their own landfill capacity and services. I agree with the Application that this is the most likely counterfactual scenario.

Market Definition

5. Having reviewed the competitive situation for waste disposal in this area and applied the standard economic market definition methodology, I conclude that the relevant market is *the market for disposing of solid waste at landfills in the Tasman/Nelson region*.
6. This market definition is conservatively narrow, rather than aggressively wide. No detailed analysis was undertaken to determine whether landfills in the neighbouring regions, such as Marlborough, should be included. This is because, for the reasons set out in the body of this assessment, I do not consider that a wider geographic market (for instance an upper South Island landfill market) is likely to be determinative of the issues.

Public Detriments

7. The potential public detriments that are considered in this report cover all three forms of economic efficiency. The specific detriments analysed below are that:

- a. The cost of operating landfills might increase, which could reduce productive efficiency;
 - b. Service quality might reduce, which could compromise either productive or allocative efficiency or both;
 - c. Landfill usage prices might increase for reasons un-related to cost, which could reduce allocative efficiency; and/or
 - d. Dynamic efficiency might be compromised.
8. On each of these points, I conclude that public detriments are very unlikely. The primary reasons for these conclusions are that
- a. the relevant “public” are the residents and ratepayers in the Nelson/Tasman region who are ultimately the buyers of waste disposal services, despite the fact that commercial waste firms often act as intermediaries;
 - b. the RLBU proposal has been specifically designed to benefit these people by reducing the total cost of landfill services, resulting in lower rates increases and each Council taking on less debt; and
 - c. there are strong obligations acting on the two Councils concerned to ensure that the public is effectively consulted and that the Councils are ultimately accountable to the public.
9. Regarding the first two of these reasons, it is generally understood that the costs to consumers of being supplied by a monopolist are greatly reduced in co-operative settings where the relevant set of consumers are also the beneficiaries of the monopolist’s activities. This is why consumer-owned electricity network monopolists are excused from regulation under the Commerce Act.¹
10. The consultation and accountability obligations on the Councils provide further assurances that the interests of consumers of waste disposal services will not be harmed under the RLBU proposal. These are statutory obligations, as set out in the Waste Minimisation Act, the Local Government Act and the Resource Management Act.
11. For these reasons I consider that there are no public detriments.

Public Benefits

12. I identified three main categories of public benefits, namely reduced costs of providing landfill services, environmental benefits and resilience benefits. While the environmental and resilience benefits are clear, they are prohibitively expensive to quantify accurately, and they are therefore included as qualitative benefits.

¹ As set out in ss54(1)(b) and 54G(2) of the Commerce Act.

13. In respect of quantitative cost savings, I assess that the RLBU proposal will save the following amounts across the region:
 - a. In un-discounted terms, the RLBU proposal will require investment of just under \$51m over the period to 2046, whereas in the absence of the RLBU the total investment across both Councils would be \$65.5m, resulting in a saving of \$14.6m or 22%. It is appropriate to discount future expenditures however. After discounting future expenditures, I consider there will be a saving of \$2.5m of capital expenditure measured in 2016 dollars over the next 30 years; and
 - b. ongoing operational costs will be reduced in each year by \$351,000 per annum, amounting to \$10.5m in total operational cost savings over the same total 30 year assessment horizon before discounting. The present value (i.e. after discounting future savings) of this benefit is estimated at \$6.7m over the same 30 year period.
14. I therefore consider that the public benefits of the RLBU proposal clearly outweigh the public detriments.

1 Introduction

15. The Nelson City Council (NCC) and the Tasman District Council (TDC) have agreed in principle to form a regional landfill business unit (RLBU) for the purpose of jointly managing the only two existing landfills in their combined areas. The proposal involves:
 - a. Establishing a Joint Committee to oversee the landfill interests of both Councils, including the setting of landfill charges, subject to well defined governance arrangements;
 - b. Mothballing the TDC landfill at Eves Valley which will in any case be full within 3 years in the absence of further significant capital expenditure; and
 - c. Diverting all waste in the region to the NCC landfill at York Valley which would then have around 15 years of service life;
16. Full details of the proposal have been set out in the Application² and I rely on the descriptions of the proposal contained in that document.
17. I have been asked by counsel for the two Councils to provide an independent expert economic assessment of the general effects of this proposed arrangement on competition in the relevant market(s), and more specifically on the public benefits and detriments of the proposal. My assessment has been informed by documentation provided by the Councils, my own prior experience in the relevant sectors, and previous competition assessments in the waste industry.
18. The analysis below concludes that the proposal would lessen competition in the relevant market, so it then proceeds to determine whether the public benefits outweigh the detriments. In doing so, I follow the Guidelines published by the Commerce Commission in 2013.³ In particular, I:
 - a. Only include benefits and detriments that will be caused by the proposed transaction;
 - b. Take a broad view of public benefits, consistent with case law that includes *“anything of value to the community generally, any contribution to the aims pursued by the society including as one of its principal elements (in the context of trade practices legislation) the achievement of the economic goals of efficiency and progress”*; and
 - c. Assess public detriments that are likely to arise in the market where competition is lessened.
19. The report is structured as follows:

² Nelson City Council / Tasman District Council, Application for Authorisation of a Restrictive Trade Practice, 17 October 2016.

³ Commerce Commission, Authorisation Guidelines, July 2013.

- a. Section 2 provides an overview of whether there is likely to be a lessening of competition from the proposal (referred to as a competition overview), including market definition;
 - b. Section 3 considers the public detriments that are likely to arise from the proposal; and
 - c. Section 4 assesses the likely public benefits from the proposal.
20. The report then closes with a brief conclusion.

2 Competition Overview

2.1 Relevant Market

21. Competition analyses generally begin by defining the relevant market(s) because doing so helps to reveal the actual and potential constraints acting on the organisations of interest. It is widely agreed that market definition is (or should be) helpful in exposing the relevant competition issues, rather than an end in itself.
22. This “purposive” approach to market definition is further assisted by the so-called SSNIP test which is an iterative process that starts with a very narrow candidate market and enquires whether a potential monopolist of that candidate market could profitably implement a small but significant and non-transitory increase in price (SSNIP). This process can be applied recursively to identify the smallest market that could be profitably monopolised.
23. This process could begin with separate candidate markets in each Council area but, for the reasons described in the application, it is clear that there is a high degree of substitutability between the Eves Valley and York Valley landfills, such that neither could implement a SSNIP without losing sufficient trade to the other to reduce profits. I therefore begin with the next smallest initial candidate market, which is *the market for disposing of solid waste at landfills in the Tasman/Nelson region*.
24. This market definition would be broadly consistent with the decision reached by the Commerce Commission in its 2007 consideration of the application by Transpacific Industries Group (NZ) to acquire the South Island assets and business of EnviroWaste Services Limited and up to 50% of the shares in Manawatu Waste Limited.⁴ In that decision the Commission defined separate regional markets for disposal of solid non-hazardous waste at landfills in New Plymouth, Wanganui, Palmerston North, Kapiti Coast/Horowhenua, Christchurch, Timaru and Dunedin. Both of the Tasman and Nelson landfills accept small volumes of hazardous waste, but in all other respects this proposed market definition is aligned with the Commerce Commission’s views.
25. Depending on transport costs, it is possible that the geographic scope of the relevant regional landfill market in the present case might extend to Marlborough, where the Bluegums landfill, located south of Blenheim, has ample capacity for the next 50 years.⁵ The road distance between this Marlborough facility and Nelson’s York Valley landfill (approximately 120km) would place this facility at a cost disadvantage. To determine if it should be included in the market, we would need to compare the transport cost with the 5% to 10% price increase normally considered in a SSNIP test. If the transport cost was less than 5% or 10% of the cost of landfill disposal at York Valley, then waste collectors in the Nelson/Tasman area could switch to Marlborough in response to a price increase. In that case the geographic scope of the market should include Marlborough.

⁴ Commerce Commission, Decision 604, 30 May 2007.

⁵ <http://www.marlborough.govt.nz/Services/Refuse/Landfill.aspx>

26. However, for reasons that will become clear below, I consider that the inclusion or exclusion of Marlborough from this market is not material to the analysis, and so do not inquire further into this possibility.
27. I also note that the Commission's 2007 decision regarded the services of refuse transfer stations, also known as resource recovery centres (**RRCs**), as being supplied in markets that are functionally separate from the landfill markets. I agree with this assessment. Within the Nelson/Tasman region there are five RRCs owned by TDC and one refuse transfer station (**RTS**) owned by NCC. It is intended by the Councils that these will remain under separate ownership and management. Since they are not affected by the proposal, I need not inquire into the geographic scope of the markets served by these facilities.
28. In summary, I proceed on the assumption that there is a *market for disposing of solid waste at landfills in the Tasman/Nelson region*.

2.2 Potential Effects of the Proposal

29. As set out in the authorisation application, the proposal will include the Joint Committee making decisions around the setting of fees for the landfills, and the allocation of waste in the region to the York Valley landfill rather than to the Eves Valley landfill. This is in circumstances where the two landfills currently compete at least for commercial customers who have the choice as to where to send their waste for disposal. This conduct is likely to breach s27 via s30 of the Commerce Act, so that there is deemed to be a substantial lessening of competition in the market for landfills in the Tasman/Nelson region.
30. Leaving aside the s30 issues and focusing more generally on s27 by itself, the proposal will involve a joint arrangement between the owners/ operators of the only two landfills currently present in the landfill market in the Tasman/Nelson region. Given the absence of any other competitors, the proposal is likely to lessen competition in that market in any event.
31. For these reasons, I conclude that the proposed transaction would indeed lessen competition between the two landfills at issue in the market for disposing of solid non-hazardous waste at landfills in the Tasman/Nelson region.

2.3 Counterfactual Scenario

32. All benefits and detriments arising from the RLBU proposal need to be assessed relative to the way the world would evolve in the absence of this arrangement, known as the counterfactual scenario. Having discussed this point with the Councils and reviewed the Application, I agree with the Application that the most likely counterfactual is a continuation of the status quo under which each Council arranges and provides for its own landfill needs.
33. The Application also considers a "hybrid" option under which TDC sends its waste to York Valley after its Eves Valley landfill closes, following negotiations between both Councils on the terms of access over landfill services. The history of inter-Council

negotiations suggests that structurally collaborative options are more likely to be successful, so I agree that this hybrid option is rather less likely than the status quo.

3 Public Detriments

34. Having concluded that the landfills at issue are the only facilities competing in the relevant market, and that the proposed transaction would therefore lessen competition in that market, I now consider the public detriments that might arise in this market. The natural concerns that arise from a market consolidation of this type are that:
 - a. The cost of operating landfills might increase;
 - b. Service quality might reduce; and/or
 - c. Landfill usage prices might increase for reasons unrelated to cost.
35. Any of these changes, if caused by the proposed transaction, might lead to public detriments in the relevant market. In economic efficiency terms, the first of these effects (discussed in section 3.2 below) would represent a decline in *productive efficiency*, while the second and third concern a loss of *allocative efficiency*, which is addressed in section 3.3.
36. These are both *static* efficiency concepts however, meaning that they relate to what is currently bought and sold in this particular market. Regulators including the Commerce Commission recognise that short term gains in productive and/or allocative efficiency might be outweighed over the longer term if efficient investment/innovation was deterred. *Dynamic efficiency* is the term given to the absence of such a deterrent.
37. Dynamic efficiency refers to the optimal nature, scale and timing of investment and innovation. One of the major attractions of competitive markets is that they decentralise decisions over what counts as 'optimal' and therefore 'dynamically efficient'. It is therefore relevant to ask whether, if market competition ceases as is proposed, investment and innovation might cease or be hindered? I address this question first, since it raises issues that are also relevant to the other components of efficiency.

3.1 Loss of Dynamic Efficiency?

38. As the Commission's Guidelines note, "*the effect of a transaction on dynamic efficiency can be difficult to measure and typically involves qualitative judgement*".⁶ The fundamental difficulty with assessing dynamic efficiency is that no-one knows with certainty how patterns of demand will evolve over time, or what enhancements might be enabled by the adoption of new technologies. This is why the Guidelines offer a list of indicators that might be relevant in particular situations.
39. There are two potentially relevant dimensions to dynamic efficiency in the landfill sector. One concerns timely investment to ensure that adequate capacity is available at all times; the second relates broadly to the quality of the landfill and in particular its environmental impact. While there has been innovation in landfill quality design, this does not occur rapidly because of the very long-life of larger landfills.

⁶ Commerce Commission, Authorisation Guidelines, July 2013, paragraph 74.

40. The present transaction appears to pose no risk to the future availability of landfill services in the Nelson/Tasman region. On the contrary, it is motivated in large measure by a desire to co-ordinate the current and future supply of landfill capacity in a cost-effective manner.
41. Nor is there a material risk that the future tranches of landfill capacity that come on stream in this region will be of inefficiently low quality in their design and/or specification. In practice, landfill quality requirements are specified as part of the Council's regulatory function, and they will be the same irrespective of who operates the (current and future) landfills. There is no reason to expect these regulated quality standards to change as a consequence of the transaction. For example, the existing landfills are not fully lined, whereas both Councils consider it highly likely that the terms of future resource consents will require the next tranche of landfill capacity to be fully-lined.
42. While the risk of lower future quality is therefore low, there is a moderately strong possibility that quality may in fact be higher under the proposed RLBU structure compared with the status quo. That would occur if, and to the extent that, the higher disposal charges needed to recover the cost of more stringent terms of resource consents cannot be sustained under the competition between the landfills that would exist under the status quo. In the short-to-medium term, and in the event that the proposed transaction was not authorised, this could constrain the quality of further development of capacity at Eves Valley in particular.

3.1.1 Constraints on the Market Power of Councils

43. It is worth noting here that both of the Councils are under statutory obligations to act in the best interests of their communities, including specifically in respect of waste management. In particular:
 - a. the purpose of the Waste Minimisation Act 2008 (**WMA**) is stated in s3 of the WMA as being to encourage waste minimisation and a decrease in waste disposal to protect the environment from harm and provide environmental, social, economic and cultural benefits;
 - b. the purpose of the Local Government Act 2002 (**LGA**) is stated in s3 of the LGA as being to "*provide for democratic and effective local government that recognises the diversity of New Zealand communities*", including by promoting "*the accountability of local authorities to their communities*"; by providing "*for local authorities to play a broad role in meeting the current and future needs of their communities for good-quality local infrastructure, local public services, and performance of regulatory functions*"; and
 - c. the purpose of the Resource Management Act 1991 (**RMA**) is (s5) to "*promote the sustainable management of natural and physical resources*" including by "*avoiding, remedying, or mitigating any adverse effects of activities on the environment*".
44. Collectively, these three pieces of legislation oblige Councils to:

- a. Ensure that adequate arrangements are in place for the disposal of waste generated in their areas;
 - b. Ensure that all landfills in their areas use appropriately modern technologies and avoid, remedy or mitigate any adverse effects on the environment; and
 - c. Consult regularly with their constituents over their plans including in respect of landfills.
45. As a result, although Councils inherently have an element of market power in respect of many activities (e.g. they are the monopoly supplier of resource consents for all activities in their areas), this power is severely constrained. On a day-to-day basis, Council decisions are constrained by their obligations under the legislation cited above. This obliges Councils to consult with their constituents regularly. Secondly, at a governance level, Councils are controlled by democratically elected Councillors who are exposed to (at least) periodic scrutiny during election campaigns.

3.1.2 Competition vs Regulation as Forms of Control

46. It is widely appreciated by economists that regulation is sometimes justified in situations where monopolies are an efficient market structure. For example, under Part 4 of the Commerce Act 1986, firms can be subject to regulation by the Commerce Commission if they face little or no competition and the benefits of regulation exceed its costs (s52G).
47. From an economic perspective, direct regulation is therefore a substitute for competition, albeit one that is unlikely to emerge without government intervention. This is the rationale for regulation of natural monopolies such as electricity lines companies: it is economically efficient to promote the long-term interests of consumers by constraining the market power of some of these monopolists using regulation.
48. Not all such monopolists are regulated however. Section 54G(2) of the Commerce Act 1986 exempts “*consumer-owned*” monopolist operators of electricity distribution networks from price-quality regulation. The rationale behind this exemption is that, for *consumer-owned* monopolists, any economic rents extracted by the monopolist will be remitted back to its owners, who are the same consumers.⁷ Put another way, the opportunity for consumers to be exploited by an absence of competition is sufficiently low in respect of consumer-owned firms, that regulation is not warranted.
49. There is a strong analogy between the matter at hand and the Commerce Act exemption for consumer-owned monopolists. There are clear public benefits from the proposal (see section 4 below), implying that a regional landfill monopolist is efficient, just as it is only efficient to have one electricity line network serving each urban street. In addition the market power of the proposed RLBU is severely constrained by a combination of:
- a. Statutory obligations as discussed at ¶43 - 44 above; and

⁷ For a more complete discussion of consumer ownership, see Henry Hansmann, 1996, *The Ownership of Enterprise*, Belknap Press / Harvard University Press.

b. Public consultation and elections as discussed at ¶45 above.

50. For these reasons, I do not consider that there are any grounds for assessing a dynamic efficiency detriment. I now consider the two forms of static efficiency.

3.2 Loss of Productive Efficiency?

51. The main concern regarding productive efficiency is that, if a transaction lessens competition, that lessening might cause a reduced emphasis on cost-control. So the question, as posed in the Guidelines (at ¶70) is whether or not the transaction might reduce *“management’s ability and/or incentive to minimise costs”*.

52. On this point I note firstly that both of the Applicants are local authorities. Consequently, to the extent that one considers such organisations to have lesser incentives for cost reduction, that consideration is irrelevant: the Applicants’ status as local authorities will not be affected by the transaction.

53. Secondly, under the status quo, the primary incentive for cost control occurs through the statutory obligations on Councils, including the sophisticated systems of consultation and the periodic election process that refreshes the governance of these organisations (as discussed at ¶43 - 45 above). Competition between the existing landfills for commercial customers appears primarily focussed on reducing *long-term capital costs* by adding volumes from the neighbouring area, rather than economising on operating costs.

54. For these reasons it seems unlikely that productive efficiency will be compromised by the proposed transaction.

3.3 Loss of Allocative Efficiency?

55. There are potentially two aspects to allocative efficiency: price and quality. I discuss these separately.

3.3.1 Service Quality

56. Resource consents were required (and obtained) for both of the landfills. While the quality standards required by such consents change over time, and are generally becoming more stringent, these existing landfills are nevertheless being operated in compliance with the terms of their consents. Nothing about the proposed transaction will change this fact, so there are no service quality detriments that could arise from this source.

57. Nor does it seem likely that the proposed transaction will cause lower service quality to emerge from changes to other aspects of the landfill operations. For example, there is no reason to expect that the hours of operation will be shortened, or that there will be material delays caused by queuing at the York Valley weighbridge.

58. For these reasons I consider that there is no material risk that the proposed transaction will cause reduced service quality.

3.3.2 Pricing Issues

59. The proposed RLBU arrangements are not expected to result in a major change to the fees charged for the disposal of waste to the landfills. There is however a risk that landfill prices for commercial users will increase in future when the RLBU is responsible for setting prices. While it seems unlikely that the per-unit operating costs of the landfill service will increase, it could be that the RLBU raises extra funds, or seeks to send signals to minimise waste disposal, by marking-up disposal charges above their direct cost.
60. In a commercially-supplied landfill market, this would be interpreted as monopoly pricing and it would count as a detriment. However when the monopolist is a local authority, the analysis presented in section 3.1 above indicates that such mark-ups should not be assessed as detriments.
61. Section 42 of the WMA *requires* the Councils to “*promote effective and efficient waste management and minimisation within its district*”. Section 46 of the WMA is also relevant here. It permits a territorial authority to charge fees for waste services that are higher or lower than required to recover the costs of the service if it is satisfied the charge will provide an incentive or disincentive that will promote the objectives of its Waste Management and Minimisation Plan. When read alongside other parts of the WMA, and taking into account the intentions of Parliament in implementing the WMA (as described in the Application), it is clear that collaboration between councils and the use of waste levies to help minimise waste has been explicitly sanctioned by Parliament.
62. For these reasons, I consider that there are no detriments that might occur in the relevant market.

3.3.3 Indication of Potential Price Increases for Commercial Users

63. In the event that the Commission disagrees with the above analysis and considers it necessary to assess the extent of any detriment from potentially increased prices, I now consider the potential size of any price increases for commercial users.
64. Under the counterfactual scenario, TDC would immediately commit \$14m to build, consent and commission the next tranche of capacity at Eves Valley. It would then seek to recover this capital, along with operating costs, through general rates and the disposal charges it sets, including charges for commercial users. [Redacted] the existing charges at the Eves Valley landfill, which are \$105.20/t plus GST for direct municipal waste [Redacted]. This is the same rate that York Valley charges commercial users, indicating a competitive equilibrium.
65. One indicator of a cap on charges under the RLBU is the cost of transporting waste to the next closest landfill, which is the Bluegums facility near Blenheim.⁸ The Bluegums landfill at Marlborough charges \$92.40/t plus GST.⁹ I estimate a one-way haulage cost of \$9.80/t based on the cost of running a class HCVII vehicle at 80km/hr for 110km with a 5%

⁸ For the purpose of this analysis, I assume that Marlborough District Council would accept this waste.

⁹ GST inclusive rates are available here <http://www.marlborough.govt.nz/Services/Refuse/Fees.aspx>

average gradient while carrying a 25t payload.¹⁰ I add 50% to allow for an empty return trip giving a total freight cost of \$14.70. The total cost of using the Bluegums landfill would therefore be \$107.10/t plus GST.

66. Commercial disposal rates at York Valley and direct municipal waste rates at Eves Valley are therefore already broadly similar to the cost that commercial operators would incur if they were to transport waste to Bluegums. This suggests that, under the RLBU factual, any small but significant and non-transitory increase in price for commercial users at York Valley would provoke substitution to Bluegums.
67. For this reason, I do not consider that the RLBU could raise existing landfill prices at York Valley significantly above their current levels without risking commercial operators approaching Marlborough District Council (MDC) to dispose of waste at MDC's landfill. This is consistent with the views of the Councils that the proposed RLBU arrangements are not expected to result in a major change to the fees charged for the disposal of waste at the York Valley landfill. As a result, I do not consider that there is likely to be any significant price increase that would result in a material detriment to commercial operators.

¹⁰ Table A5.5 of the NZTA Economic Evaluation Manual (effective 1 January 2016) gives the per kilometre cost at \$2.22. We multiply by 110km and divide by 25tonnes.

4 Public Benefits

68. There are three main categories of potential public benefits to be assessed. One is the reduction in landfill costs, which results in productive efficiency, and the others concern environmental benefits and resilience benefits.
69. These benefits are assessed relative to the counterfactual as described at section 2.3 above.

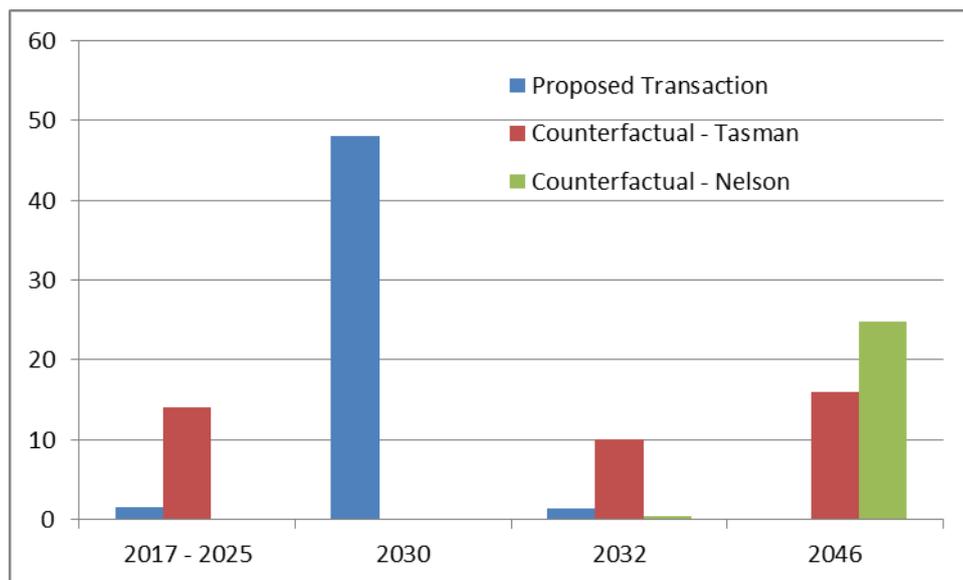
4.1 Lower Costs of Supplying Landfill Services

70. One of the main motivations for the RLBU proposal is the deferral of capital costs associated with supplying new capacity at Eves Valley. However the Councils also expect reductions in total operating costs. I consider these items separately.

4.1.1 Capital Cost Efficiencies

71. The most readily quantifiable benefit is that capital expenditure would be deferred, particularly for TDC. Using the figures in the Application and the Councils' public consultation documents, the following chart shows the pattern of capital expenditure expected under the proposed transaction, and under the counterfactual scenario.

Figure 1: Timing of Capital Expenditures Across Both Councils Combined¹¹



72. These figures are based on the following assumptions.
- Without the RLBU, TDC would need to spend \$14m almost immediately¹² to develop further capacity at Eves Valley to be available to dispose of waste from 2019, a

¹¹ The vertical axis of the chart relates to millions of NZ dollars.

¹² Tasman District Council, Proposal for a Regional Landfill Business Unit, Consultation Document, page 11 envisages for the "go it alone" counterfactual, capital investment of \$14m over the next 8 years to 2025 and \$26m more over the next 20 years to 2045. This has been modelled by recognising the initial \$14m in 2017 (year 1), \$10m in 2032 (year 15) and \$16m in 2046 (year 30).

further \$10m in 2032 and a further \$16m in 2045 for a total of \$40m with the investments timed in line with the pattern discussed in the Application.

- b. Without the RLBU, Nelson would spend \$25m in 2046 to create extra capacity at York Valley, this sum being equal to \$14m inflated at 2% per annum in line with the assumption in the Deloitte reports, and \$500,000 in 2032 for re-consenting York Valley.¹³
 - c. In contrast, with the RLBU there would be a combined capital expenditure outlay by both Councils of \$1.5m almost immediately (including \$672,000 for closing Eves Valley), a further investment of \$48m from 2030 to develop new capacity at Eves Valley, and a further \$1.4m in 2032 associated with closing York Valley.¹⁴
73. In the chart above, I have disregarded the proposed payment of \$4.2m from TDC to NCC that would be made under the RLBU arrangement, because this is a transfer that would recognise value differences in the landfills, rather than a real resource cost when viewed from the perspective of the whole community in the region.
74. In un-discounted terms, the RLBU proposal will require investment of just under \$51m over the period to 2046, whereas in the absence of the RLBU the total investment across both Councils would be \$65.5m, a saving of around \$14.6m or 22%. It is important to note that these estimates have been compiled by looking at each Council's expected capital outlays in both scenarios (i.e. with and without the RLBU). As has been noted in a report previously provided to the Councils by Deloitte¹⁵, and is clear from Figure 1, the benefits of the RLBU proposal accrue to the two Councils at different times and to different extents. The \$4.2m transfer payment from TDC to NCC reflects the different quantum of benefits and ensures that both Councils share in the overall saving of capital costs.
75. It is appropriate to discount future expenditures however.¹⁶ Since these are socially desired projects undertaken by local authorities rather than commercial enterprises, there is a strong argument for using a relatively low discount rate, in line with social rate of time preference.¹⁷ The social rate of time preference is a well-established concept,

¹³ Deloitte, Nelson City Council, Landfill Proposal Review, 26 February 2014, page 14. See also, Deloitte, Nelson City Council, Landfill Proposal Financial Review, 15 October 2015 at page 21.

¹⁴ See Tasman District Council, Proposal for a Regional Landfill Business Unit, Consultation Document, page 6. Note that the \$48m of capital expenditure will actually be spread over 20 years, so by recognising it at the start of this period we are increasing the capital costs of the proposal in NPV terms, which has the conservative effect of understating the benefits of the RLBU proposal.

¹⁵ Refer to the 15 October 2015 report by Deloitte to the Councils, *ibid* at p7. Note that this report was based on a comparison of a "contract for service" approach compared with a "go it alone" status quo approach, but the point still applies to a comparison of the RLBU and status quo options, given that the "contract for service" approach still envisaged the operation of a single regional landfill.

¹⁶ As noted by the Commission at paragraph 51 of its Authorisation Guidelines.

¹⁷ Martin Feldstein, 1964, The Social Time Preference Discount Rate in Cost Benefit Analysis, *The Economic Journal*, 74, pp. 360-379.

accepted by the Treasury in New Zealand¹⁸ and featuring strongly in the United Kingdom Treasury’s “green book” for project evaluation.¹⁹

76. Economists generally agree that “*there is no reason to expect that discount rates should be consistent across different choices*”.²⁰ The choices a community makes over climate change mitigation and other environmental investments will be based on considerations that are broader and have a longer time-horizon than those considered by commercial investors in a business, even if that business is involved in climate change mitigation or other environmentally desirable activities.²¹
77. The social rate of time preference (SRTTP) is a way of summarising what a population is willing to forego now, in return for a future benefit. It will be affected by the preferences of the population, including the extent to which they feel connected to the project, and is likely to fall with the time by which the benefit is delayed. Depending on the project, the SRTTP might therefore be moderately large (e.g. 4%) for the next 10-20 years and then fall (e.g. to 1% or lower) for the benefits one expects one’s children to enjoy.
78. I represent the SRTTP approach here by applying a rate of 3.5% per annum which is the current UK government guidance. One alternative is to adopt the New Zealand Treasury’s default guidance for public infrastructure projects, which is to use a rate of 6% per annum.²² I consider that this 6% rate is too high for the purpose at hand, because we are not assessing the costs and benefits of a capital investment project but are instead interested in the capital and operating cost savings to the residents and ratepayers of this region. There is however very little difference between the Treasury’s default guidance of 6% and the 6.5% discount rate used in the Deloitte reports previously provided to the Councils for the purpose of commercial valuation.²³
79. I therefore only report the benefits of avoided capital investment using the social rate of time preference discount rate (3.5%) and the commercial discount rate (6.5%).

Table 1: Total NPV of Avoided Capital Investment (in \$m) by Scenario and Discount Rate

	Discount Rate	
	3.5%	6.5%
Proposed Transaction	34.2	24.7
Counterfactual	36.7	25.8
NPV of Benefit	2.5	1.1

¹⁸ Louise Young, 2002, Determining the Discount Rate for Government Projects, NZ Treasury Working Paper, 02/21, section 3.

¹⁹ HM Treasury, The Green Book: Appraisal and Evaluation in Central Government, 2011.

²⁰ Malhotra, D., G. Loewenstein, and T. O'Donoghue, 2002, Discounting and Time Preference: A Critical Review, *Journal of Economic Literature*, 40, pp. 351-401.

²¹ See for example, Martin Weitzman, 2007, A Review of The Stern Review on the Economics of Climate Change, *Journal of Economic Literature*, XLV, pp. 703 – 754.

²² <http://www.treasury.govt.nz/publications/guidance/planning/costbenefitanalysis/currentdiscountrates>

²³ Eg at p20 of Deloitte's February 2014 report, and p16 of their October 2015 report.

80. It will be seen that discounting reduces the capital cost efficiency benefits of the RLBU, but that the benefits remain substantially positive, saving some 7% of capital spending using a 3.5% discount rate (\$2.5m in NPV terms).

4.1.2 Operational Cost Savings

81. Broadly similar volumes of waste are currently generated in each of the two Council areas. For example, in the 2014 Deloitte report²⁴, it was assumed (for the 2016 financial year) that Tasman would generate 29,000 tonnes and Nelson would generate 33,500 tonnes. Under the RLBU proposal, the flow of waste into the York Valley landfill would therefore increase by 87% on the basis of these assumptions by Deloitte.
82. These predicted volumes are not in fact far off the actual volumes. In the year ending June 2016 NCC landfilled 31,260 tonnes, and TDC landfilled 29,835 tonnes from Tasman and 2,023 tonnes from Buller. Under the RLBU proposal, the flow of waste into the York Valley landfill would therefore increase by 102% based on these actual figures. In this section, we use these more recent figures (for the year to June 2016) as the basis for estimating operational cost savings.
83. Some categories of operating cost increase linearly with volume, notably the ETS levy and the Waste Levy. However in other cases, namely the landfill operator contracts and “other operating costs”, the relationship between cost and volume is not linear. For example, at p13 of the 2014 Deloitte report discussed above (¶81), “other operating costs” only increase by 3% between the status quo and regional landfill proposal (\$498,000 to \$513,000) when volumes increase by 87%. This economy of scale is consistent with the “Key Findings” section of the October 2015 Deloitte report which refers to the “ability to process a higher annual volume through a joint landfill for a relatively minor increase in operating costs” (p8).
84. A very conservative approach has been used to estimate operating cost savings by Deloitte in their reports. For the purposes of my report, I ignore the “other operating costs” item discussed above (¶83), even though it is an obvious source of scale economies, and also ignore all of the operational cost categories that increase approximately linearly with volume (such as the ETS cost). Instead I focus only on the costs arising from the landfill operator contract. This deliberately understates the operational cost efficiencies.
85. The terms of the landfill operator contract at York Valley are described by Deloitte as follows:²⁵

a. [Redacted] ;

b. [Redacted] ;

c. [Redacted] ;

²⁴ Deloitte, Nelson City Council, Landfill Proposal Review, 26 February 2014, page 13.

²⁵ Deloitte, Nelson City Council and Tasman District Council, Landfill Proposal Financial Review, October 2015, page 26, under the operational costs reference.

d. [Redacted]

86. The structure of this contract generates very strong economies of scale.
87. For TDC's part, the terms of its landfill operator contract are described by Deloitte as involving [Redacted] ²⁶
88. Although the contract for TDC's landfill operator has a different structure, the implications for per-tonne costs of disposal are very similar, with strong economies of scale evident in both contracts, as the following chart shows.

[Figure 2: [Redacted]]

89. Compared with the counterfactual, TDC under the RLBU arrangement will save around [Redacted] operating costs in the first year plus the fixed charge of [Redacted], but will incur an extra [Redacted] per annum for ongoing maintenance for a total saving of \$406,071.²⁷ In all subsequent years, TDC's cost savings remain the same at a total of \$406,071.²⁸
90. Compared with the counterfactual, NCC under the RLBU arrangement will incur extra operating costs of around [Redacted] each year under its landfill contract, to

²⁶ Deloitte, October 2015 report, page 26, under the operational costs reference.

²⁷ The figure of [Redacted] is comprised of 31,858t from Tasman/Buller now going to Nelson multiplied by TDC's contracted disposal rate of [Redacted].

²⁸ These estimates assume that the total flow of waste across the region is fixed at 63,118t per annum with 31,260t and 31,858t being sourced from Nelson and Tasman (including Buller) respectively. [Redacted]

accommodate the waste from TDC (including Buller).²⁹ These operating costs will be shared with TDC going forward.

91. Across both Councils, there is consequently a net benefit from saved operating costs of \$351,496 per annum over each year of the 30 year modelling horizon.³⁰ This results in total cost savings before discounting of \$10.5m.
92. Over the 30 year modelling horizon this leads to a total NPV of \$6.69m using a 3.5% discount rate. The corresponding NPV would be \$4.89m using Deloitte's discount rate of 6.5%, although I remain of the view that the 3.5% discount rate is the appropriate figure to use for the reasons above.

4.1.3 Debt and Rates Effects

93. I note that the Councils see lower debt and lower rates as being benefits of the proposed RLBU structure.³¹ I agree that these are benefits for ratepayers and that it is fair and reasonable for Councils to cite these as benefits in consultations with ratepayers.
94. From my economic perspective however, these benefits arise from the real savings in resources that the proposal will deliver. I have (conservatively) quantified some of these savings above, and address other benefits below. I do not attribute any *extra* benefit to lower Council debt or rates because these effects arise from the same cause (the RLBU proposal) and are merely observed in different settings. Lower debt and rates could reasonably be viewed as an *alternative* way to estimate the net public benefits of the RLBU proposal, but it would be double-counting to treat them as *extra* benefits.

4.2 Environmental Benefits

95. The Councils also anticipate environmental benefits as a consequence of the RLBU initiative. Even though modern landfills are subject to careful consenting processes, including over the management of leachate for example, there are inevitably still some negative spill-over effects associated with operating a landfill. General categories of these social costs include noise, smell and the attraction of feeding birds.
96. These are localised environmental detriments: they arise and are largely limited to the area around the landfill. Moreover, with the exception of negative spill-overs arising directly from truck movements, it seems reasonable to assume that they arise primarily from the operation of a landfill rather than the volume of material flowing into it.
97. Under the RLBU proposal, there will be only one operational landfill in the region at all times, instead of two. Consequently, I expect that the relevant localised negative

²⁹ These [Redacted]

³⁰ Comprised of \$406,071 per annum operating cost savings for TDC [Redacted].

³¹ See, for example, Tasman District Council, Proposal for a Regional Landfill Business Unit, at pp. 8, 11-12 and 14.

environmental effects will be halved by the RLBU proposal, relative to the counterfactual scenario.

98. There is also the added environmental benefit of waste minimisation. By having one regional landfill, there will not be competition between the two existing landfills that perversely could lead to incentives for increased waste being disposed of at the landfills rather than less waste disposal. This is on the basis that the high fixed costs of running separate landfills mean that there is a financial incentive to increase rather than decrease the amount of waste being disposed of at the landfills. Waste minimisation is the objective of the Waste Minimisation Act, and Parliament clearly sees it as having public benefits (as set out in more detail in the legislative background to the industry in the Application).
99. While there is clearly an environmental benefit from the RLBU, it would be very difficult and unduly costly to quantify it accurately. Consequently, I include this as a qualitative benefit.

4.3 Diversity and Resilience

100. The RLBU proposal is also likely to generate greater long-term security in respect of waste disposal for the region.
101. Because the RLBU is intended to actively manage the region's resources in a co-ordinated way, it should reduce the likelihood that either Council will find itself without local options for disposal. Under the counterfactual scenario, that could occur in Tasman if it proved impossible to secure further consents for Eves Valley in a timely manner, for Nelson if a similar event occurred as York Valley approached its capacity limits, and for either Council in the event of an emergency such as an earthquake that rendered a landfill inoperable.
102. Again, these diversity and resilience benefits are included as qualitative rather than quantitative benefits, due to the difficulty with quantifying them accurately.

5 Conclusion

103. Having concluded that the RLBU proposal will lessen competition in the relevant market, I have investigated the public benefits and detriments it would cause, relative to the most likely counterfactual which is a continuation of the status quo.
104. I consider that there will be no public detriments. The primary reasons are that:
- a. the relevant “public” are the residents and ratepayers in the Nelson/Tasman region;
 - b. the RLBU proposal has been specifically designed to benefit these people by reducing the total cost of landfill services; and
 - c. there are strong obligations acting on the two Councils concerned to ensure that the public is effectively consulted and that the Councils are ultimately accountable to the public.
105. I have identified three main categories of public benefits, namely reduced costs of providing landfill services, environmental benefits and resilience benefits. While the environmental and resilience benefits are clear, they are prohibitively expensive to quantify accurately, and they are therefore included as qualitative benefits.
106. In respect of cost savings, I assess that the RLBU proposal will save the following amounts across the region:
- a. In un-discounted terms, the RLBU proposal will require investment of just under \$51m over the period to 2046, whereas in the absence of the RLBU the total investment across both Councils would be \$65.5m, a saving of around \$14.6m or 22%. It is appropriate to discount future expenditures however. After discounting future expenditures, I consider there will be a saving of \$2.5m of capital expenditure measured in 2016 dollars over the next 30 years; and
 - b. \$351,000 per annum in ongoing operational costs in each year, which amounts to \$10.5m in total operational cost savings over the next 30 years before discounting, and \$6.7m savings in 2016 dollars over the next 30 years after discounting.
107. I therefore consider that the public benefits of the RLBU proposal clearly outweigh the public detriments.