



Review of the effectiveness of the waste disposal levy, 2011

**In accordance with section 39 of the Waste
Minimisation Act 2008**

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Foreword by the Minister for the Environment

Price signals are one of the most effective ways to influence people's behaviour and choices. Historically, the price signals around waste have been all wrong. I began my political career in local government 25 years ago when the dominant thinking was that landfill charges had to be kept as low as possible to avoid illegal dumping and littering. The result was that prolific dumpers were subsidised by those who recycled and innovative recycling businesses were stifled by the poor incentives.

The introduction of the waste disposal levy on 1 July 2009 was an important step in improving the price signals in the waste sector. We are effectively including an environmental cost into disposing of waste to landfill.

The levy is stimulating greater interest in alternatives as well as providing funding for innovation within the waste sector, but it is too early to quantify these gains. At the same time, the current economic downturn and Canterbury earthquakes are impacting waste levels, which makes it difficult to quantify the impacts of waste minimisation activities.

Levy funds have been used to promote waste minimisation across the country. Many of the Waste Minimisation Fund projects have only just begun and it is too early to expect them to be delivering substantial benefits. Many territorial authorities (local councils) are reviewing their waste management and minimisation plans and I expect to see these plans identify new opportunities for waste minimisation in their districts. I am keeping a close eye on how territorial authorities are spending their levy funds.

There are no free lunches with the waste disposal levy. This cost does flow onto households and businesses. We need to be quite cautious – particularly in these challenging economic times – of adding to these costs. We would need to be confident that the benefits of raising the levy significantly exceed the costs, which we cannot at this time.

Under the New Zealand Emissions Trading Scheme, the waste sector begins reporting their greenhouse gas emissions from January 2012 and surrendering emission units from January 2013. This will also affect waste disposal costs. For these reasons, the Government is not considering any changes to the rate of the waste disposal levy at this time.

I thank the Ministry for the Environment and the Waste Advisory Board for their work and input on the review. It is a useful early take on how the waste disposal levy has been implemented. I look forward to the next review before 1 July 2014 by which time a more substantive analysis of the costs and benefits will be possible.



Hon Dr Nick Smith
Minister for the Environment

Executive summary

The Waste Minimisation Act 2008 (the Act) established a waste disposal levy (the levy) which, since 1 July 2009, has been applied to waste disposed of at disposal facilities.

The levy has two purposes set out in the Act: to raise revenue for promoting and achieving waste minimisation; and to increase the cost of waste disposal to recognise that disposal imposes costs on the environment, society and the economy. The levy is currently set at a rate of \$10 + GST per tonne.

The Act requires the Minister for the Environment to regularly review the effectiveness of the levy, with the first review completed no later than two years after the levy's introduction. This report is on that first review of the effectiveness of the waste disposal levy.

The Minister must consider whether the amount of waste disposed of has decreased, and whether the amount of waste reused, recycled or recovered has increased since the levy came into effect. To enable these considerations to be made in the context of the levy's purpose and operation, an outcomes framework has been adopted to guide the review process.

This first review focuses primarily on reviewing progress in the activity of implementing the levy, and achieving the levy's short-term outcomes. These are as follows:

- Activity:
 - a. A levy is imposed on waste disposed of at a disposal facility. (The levy is paid to the levy collector.)
- Short term outcomes:
 - b. Revenue is raised (for promoting and achieving waste minimisation).
 - c. The cost of waste disposal is increased (to recognise that disposal imposes costs on the environment, society and the economy).
 - d. Funds are allocated to territorial authorities (to spend on matters to promote or achieve waste minimisation).
 - e. Funds are allocated to projects (to promote or achieve waste minimisation).

Only limited conclusions can be drawn from a review at such an early stage in the waste disposal levy's operation. The review found:

- the levy has been introduced and is operating as intended
- at this stage there is not sufficient evidence to determine the extent to which levy avoidance or perverse outcomes of the levy are occurring
- to date, no evidence was found of an increase in incidence or quantity of illegally dumped waste
- the auditing of disposal facilities did find potential for levy avoidance through misclassification of material as diverted, but at this early point in the levy's operation it is too soon to determine how widespread or significant these issues may be.

Background to the Waste Minimisation Act and the waste disposal levy

The passing of the Waste Minimisation Act (the Act) in 2008 introduced tools to promote and achieve *waste minimisation*¹ in New Zealand – one of which is the waste disposal levy (the levy).

The Act encourages a *reduction* in the amount of *waste* generated and disposed of in New Zealand, to lessen the environmental harm from waste and provide environmental, social, economic and cultural benefits.

Since 1 July 2009, the levy has been imposed on waste disposed of at *disposal facilities*, including *landfills* that accept household waste. Currently there are 51 disposal facilities subject to the levy.

The levy has two purposes set out in the Act: to raise revenue for promoting and achieving waste minimisation; and to increase the cost of waste *disposal* to recognise that disposal imposes costs on the environment, society and the economy. The levy is currently set at a rate of \$10 + GST per tonne.

The revenue raised by the levy is collected by the Ministry for the Environment (the Ministry) and spent on:

- paying half to territorial authorities (councils) to spend on matters to promote or achieve waste minimisation
- funding projects, through the Waste Minimisation Fund, that promote or achieve waste minimisation
- administration costs relating to collecting and administering of the levy and administering the Waste Minimisation Fund.

The Act sets out a requirement for the Minister for the Environment to regularly review the effectiveness of the levy. The Act states that in undertaking a review, the Minister:

- a. must obtain and consider the advice of the Waste Advisory Board
- b. must consider whether the amount of waste disposed of in New Zealand has decreased [since the levy came into effect]
- c. must consider whether the amount of waste reused, recycled or recovered in New Zealand has increased [since the levy came into effect]
- d. may consider any other matters that he or she thinks relevant.

This is the first of these reviews. As the levy has been in operation for two years, it is timely to assess whether the levy is on track to achieving its purpose, look for any unintended consequences of the levy, and set up a baseline measure of the levy's effectiveness to compare against in future reviews.

¹ Terms defined in the glossary are italicised the first time they appear in the text.

Approach to reviewing the effectiveness of the waste disposal levy

The first step in reviewing the effectiveness of the waste disposal levy is to establish a clear understanding of what is meant by ‘effectiveness’. This has been achieved by mapping the anticipated short-, medium-, and long-term outcomes of the levy’s operation. Measures can then be used to assess progress against each of these outcomes, building up a picture of the levy’s overall effectiveness.

The anticipated short-, medium-, and long-term outcomes of the levy’s operation are set out in the outcomes framework in figure 1. The outcomes framework operates from the bottom up; from the activity of imposing the levy to the long-term outcomes the levy is designed to contribute to.

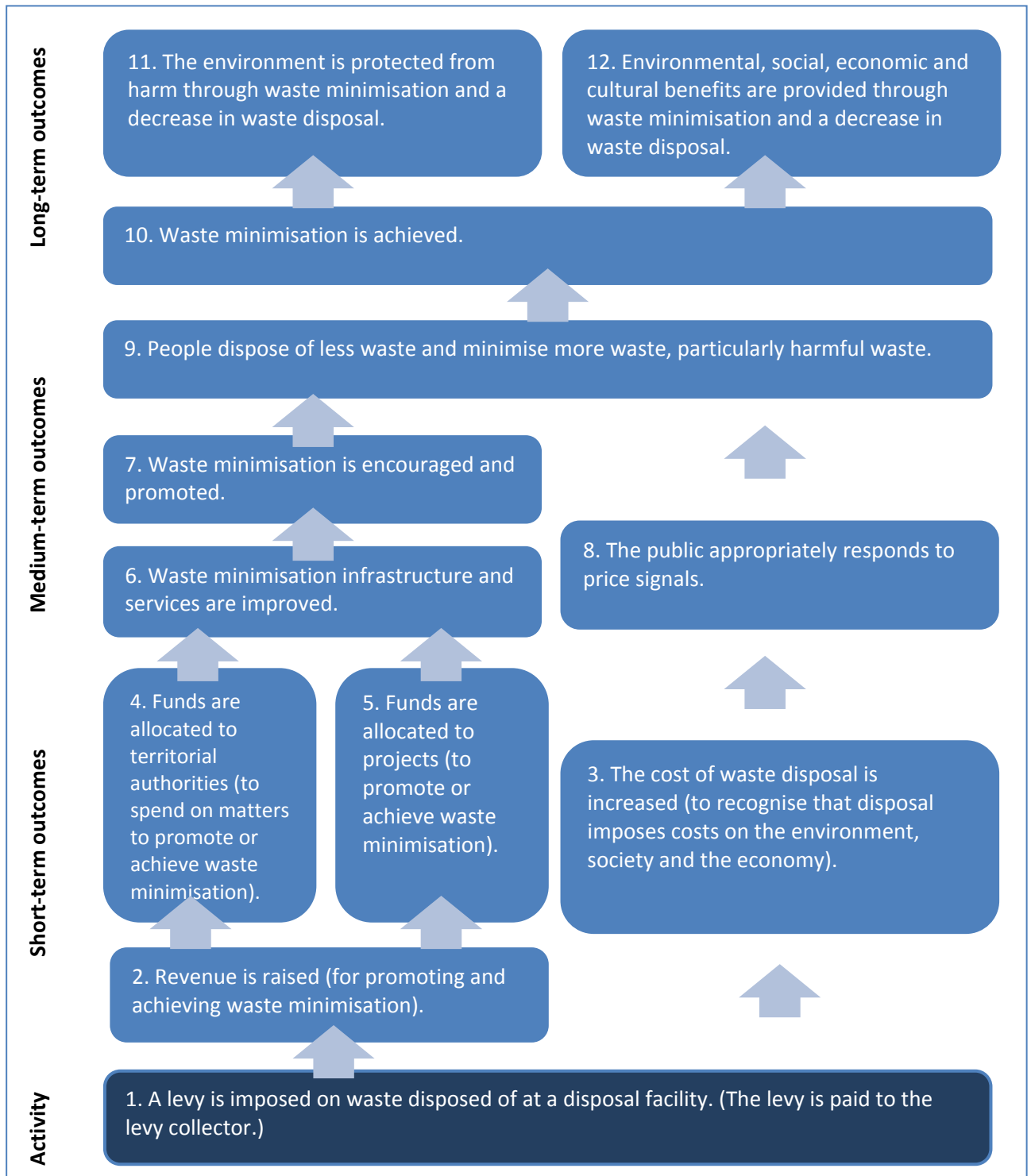
The short-term outcomes are the immediate effects of the levy being imposed: revenue is raised, and distributed for promoting and achieving waste minimisation; and the cost of waste disposal is increased.

Over the medium-term, the spending of levy revenue will lead to waste minimisation infrastructure and services being improved – encouraging and promoting waste minimisation. The cost of waste disposal being increased, through the implementation of the levy, should lead to the public appropriately responding to price signals (ie, disposing of less waste).

The achievement of these short- and medium-term outcomes should lead to minimisation of waste; protecting the environment from harm and achieving environmental, social, economic, and cultural benefits. The levy’s implementation has less direct influence on these long-term outcomes, as external factors may also come into play. For example, other parts of the Waste Minimisation Act and other external events will impact (both positively and negatively) on waste minimisation being achieved.

The effectiveness of the waste disposal levy is reviewed in the following sections of this document by establishing baseline measures for the short-, medium-, and long-term outcomes, and making initial measures of progress against these. The data which informs the review was gathered between July 2009 and March 2011.

Figure 1: Expected outcomes of the waste disposal levy



Assessment of outcomes of the waste disposal levy

This section reviews the progress in implementing the levy, and achieving the short-term outcomes of the levy. It also establishes baseline measures for some of the medium- and long-term outcomes. The outcomes are numbered in the following sections to match the numbering in figure 1.

Activity

Before assessing outcomes of the levy, this section looks at the activity of the levy being implemented and collected.

1. A levy is imposed on waste disposed of at a disposal facility. (The levy is paid to the levy collector.)

Operation of the levy

Waste disposal facility operators are generally required to submit monthly levy returns on waste tonnage for the calendar month, although small operators receiving less than 1000 tonnes annually may apply to submit an annual return. The due date for monthly levy returns is the 20th of the following month. Disposal facility operators submit returns through the Online Waste Levy System (OWLS); they are also required to verify the returns through OWLS before they are finalised.

Invoices are sent to disposal facility operators by the 15th day after the day the return is due, and will apply to waste deposited two months prior. For example, an invoice sent on 1 September will relate to a return submitted on 20 August for waste deposited in July. The payment for waste deposited in July is due, at the latest, by 20 October.

For the period from July 2009 to December 2010, all due levy returns and payments were received. Of the 729 levy returns received from disposal facilities, 95% were received on time, nine were received late, and a further 22 were verified late. Of the nine returns submitted late, six were one day late, and three were two days late. The 22 returns verified late averaged 4.6 days late. Only three of these were more than 10 days late at 12, 14 and 32 days.

Of the 903 invoices the Ministry for the Environment issued to disposal facilities by 31 December 2010, 106 (12%) were paid by operators after the due date. However, the majority (78%) of these late payments were made within one week of the due date. Interest was accrued and paid on late payments.

A levy waiver was granted to Canterbury Waste Services for waste associated with the September 2010 Canterbury earthquake. This was the first waiver issued under the Waste Minimisation Act. Waivers were also granted for waste associated with subsequent earthquakes in 2011; however, this review only covers the period up until 31 December 2010.

The quantity for which the levy was waived in 2010 were:

- September 2010: 16,398 tonnes
- October 2010: 2,731 tonnes
- November 2010: 2,037 tonnes.

Potential levy avoidance

The Ministry for the Environment has undertaken an audit programme to assess whether disposal facilities are paying the Ministry the entire levy that is due, and identify any levy avoidance issues and risks. The audit programme is continuous and will see every disposal facility audited at least once over a three year period.

Diverted and cover material

Up until March 2011, 11 disposal facilities had been audited; inaccuracies were found with two of these. The key issues found relate to interpretation of the legislation and regulations – for example, different views about how to interpret ‘diverted material’ and ‘diverted tonnage’.

Diverted material is material that is no longer required for its original purpose and, but for commercial or other waste minimisation activities, would be discarded. *Diverted tonnage* is material which goes to a disposal facility and is then *reused* or *recycled* at the facility or removed from the site for another purpose. The levy should be paid on this material as it enters the disposal facility, but the amount paid can be recovered when the material is diverted.

There are also inconsistencies in material used for landfill cover and interpretation as to whether or not it is subject to the levy.

Key findings from the audit programme include:

- Some material classified as diverted material is being retained for longer than six months (by which time it officially becomes ‘waste’ under the Act). The Act includes the ability to apply to the levy collector to store material onsite for more than six months; however, this is not commonly happening. There is a risk that the material will ultimately be treated as waste but no levy has been paid on it. There is currently no requirement for diverted material to be reported, and therefore little way to keep track of it.
- There are some instances of cover material and diverted material being incorrectly reported in OWLS (the Online Waste Levy System) in which tonnages are reported to the Ministry – eg, reported as diverted but actually being used as cover. This raises risks around data quality.
- Questions have been raised around the appropriateness of the use of certain material as cover – eg, hydrocarbon-contaminated soil or crushed glass. The audits found that there may be an incentive to classify material as cover material – and there is some inconsistency as to whether the levy is paid on this material – which could then be classified as diverted material and potentially avoid the waste disposal levy.
- Improvements in controls are required at smaller facilities, particularly around the controls to ensure all waste is assessed and measured on entry, and the capturing of the data for levy reporting purposes.

This latter point relates to the use of average figures rather than specific tonnages recorded through weighbridges for car loads. While averaging tonnages by car load is allowed under the Act, a high degree of variation was found between disposal facilities in the average tonnage used. The auditors indicated that this was a source of lost levy revenue as quantities were generally under-estimated in average tonnages.

Cleanfills

Fills not subject to the waste disposal levy (also referred to as *cleanfills*, ‘managed fills’, or construction and demolition [C&D] fills) were identified as a priority area for information gathering over the 2010/11 period. This is because of anecdotal reports and sector concerns that these non-levied fills were being used to dispose of unacceptable material as a form of levy avoidance.

A study of consented fills completed in early 2011 found that the number of consented fills that are non-compliant with consent conditions within a given year has not changed materially since the levy’s introduction. There was a small (5%) increase in the number of fill sites with resource consents. Note that information was not available on non-levied fills that do not require resource consents.

In the two years before the introduction of the waste disposal levy in July 2009, 30% of facilities monitored failed to meet the acceptance criteria in the resource consent (19% had a minor non-compliance and 10% were non-compliant).

In the 18 months following the introduction of the waste disposal levy, 26% of facilities monitored failed to meet the acceptance criteria in the resource consent (instances of minor non-compliance decreased to 13%, and non-compliance rose to 13%).

This small change in the level of non-compliance is not significant enough to establish whether waste is being disposed of illegally at cleanfills at any higher rate than was occurring before the levy was introduced. Information on disposal amounts was not available for the study.

Illegal dumping

At the time of the levy’s introduction, it was considered that the levy may result in unwanted behaviours such as illegal dumping. A survey of territorial authorities conducted by WasteMINZ and the Ministry for the Environment in early 2011² looked into instances of illegal dumping and how these may have changed since the levy’s introduction. Responses were received from 66 of the 67 councils, though not all respondent councils answered all questions.

Of the 66 councils that responded to the WasteMINZ and Ministry for the Environment survey, 56 reported incidences of illegal dumping. For those responses comparing the 2008/09 and 2009/10 reporting periods, 20 out of 26 (77%) indicated a decline in the number of incidents of illegal dumping. Forty-four of the 48 councils (92%) that reported annual tonnages collected from illegal dumping indicated that they collect less than 1000 tonnes annually.

² The questions from the survey relevant to this review are included in Appendix 1.

Stakeholder perceptions

An evaluation of stakeholder perceptions was undertaken as part of a wider Ministry evaluation programme around the Waste Minimisation Act. The evaluation used a mix of focus groups, key informant interviews, and online stakeholder surveys that were undertaken between 28 August and 14 December 2010. Stakeholders included landfill operators, local government, and businesses and communities involved in the waste and resource recovery sector.

Some stakeholders had an expectation that levy avoidance might increase if the levy increased. While some stakeholders involved in the evaluation provided opinions or gave anecdotal evidence of levy avoidance, there is no clear evidence that this is the case.

Stakeholder perceptions varied about what the main purpose of the levy was, but overall they indicated that progress made to date in implementing the Act appeared appropriate within the timeframe of the past 18 months. Stakeholders did not appear to have noticed any serious problems, unexpected consequences or surprises that warranted urgent remedial action.

Conclusion

The levy system is operational and most waste disposal facilities are complying with requirements. Stakeholders have not identified serious problems with the scheme. Potential for levy avoidance is a matter for concern and data is being collected to assess whether the levy is being avoided. There is no evidence of significant levy avoidance, but there are potential problems with the classification of material as diverted material which may result in avoidance of the levy.

Short-term outcomes

2. Revenue is raised (for promoting and achieving waste minimisation).

From the levy's introduction in July 2009 until 31 December 2010, a total of \$31,212,658 was received in revenue from the waste disposal levy. This was received as follows:

- 1 July – 31 December 2009: \$6,112,079
- 1 January – 30 June 2010: \$12,785,018
- 1 July – 31 December 2010: \$12,315,561.

The 2010 calendar year's revenue of approximately \$25 million can be used as an indicative figure for annual revenue. This is lower than the \$31 million that was forecasted before the levy taking effect, which was based on a 2006 estimate of 3.1 million tonnes of waste per annum. The quality of available waste data before the introduction of reporting under the levy is varied, thus it is not surprising that the 2006 estimate differed to the 2010 figure. The economic recession is also likely to have impacted on the amount of waste disposed over this period. The introduction of reporting through the levy provides a consistent data set which will provide a baseline for comparison over time.

Under the Act, levy revenue may be spent on administration of the levy and the Waste Minimisation Fund. Cabinet has approved a value of up to \$1.7 million per annum, and to date

spending has fallen within this limit. The total amount spent on administration in 2009 and up to 31 December 2010 was \$2,477,123, accounting for 7.9% of revenue received during this period.

Administration costs include the initial one-off costs involved with implementing the Act. This included developing business processes for the Ministry and developing guidance for councils and disposal facility operators on their new responsibilities, as well as new IT systems to manage levy collection, processing payments and funded projects. Ongoing administration costs have declined as administrative matters transition from start-up to business as usual.

On-going administration costs will cover the following activities:

- administration of the Waste Minimisation Fund
- collection of the levy from disposal facility operators (including collecting returns, issuing invoices, receiving payments, and collecting debts)
- payment of 50% of levy revenue to territorial authorities and monitoring that these funds are being used for the intended purposes
- auditing activities associated with the levy
- enforcement actions associated with the levy, including investigations and prosecutions.

Conclusion

- Revenue has been raised from the levy, although it is less than the projected revenue.

3. The cost of waste disposal is increased (to recognise that disposal imposes costs on the environment, society and the economy).

In early 2011, a national Computer Assisted Telephone Interview (CATI) public survey was conducted by UMR Research. The survey looked into public awareness of the waste disposal levy, and how transparently levy costs are passed onto waste generators. This was part of a nationwide omnibus survey with a nationally representative sample of 750 New Zealanders 18 years of age and over. Information on awareness of the levy and disposal methods is presented in table 1.

Table 1: Transparency of levy costs

Main disposal method in last 12 months	Number of respondents	Percentage of respondents	Number aware of the levy	Percentage of sub-sample aware of levy
Rubbish bags:	333	44.5		
<i>Council</i>	212	28	33	16
<i>Non-council</i>	106	14	13	12
Council wheelie bin	226	30.2	23	10
Private rubbish collector	80	10.7	14	18
Transfer station or landfill	34	4.5	6	19
Other	77	10.1		
Total	750	100	89	12% of all respondents

Note: Figures in the table are weighted counts for sample representation.

Conclusion

It is not possible to assess whether the cost of waste disposal has increased because there is no baseline data with which to compare it.

4. Funds are allocated to territorial authorities (to spend on matters to promote or achieve waste minimisation).

Half of the revenue raised by the levy is distributed to territorial authorities (councils), on a population basis, to spend in accordance with their *Waste Management and Minimisation Plans* on matters to promote or achieve waste minimisation. Councils are required to review their Waste Management and Minimisation Plans no later than 1 July 2012; until that time many councils will be spending their share of the levy in accordance with plans that were developed before the Act came into effect.

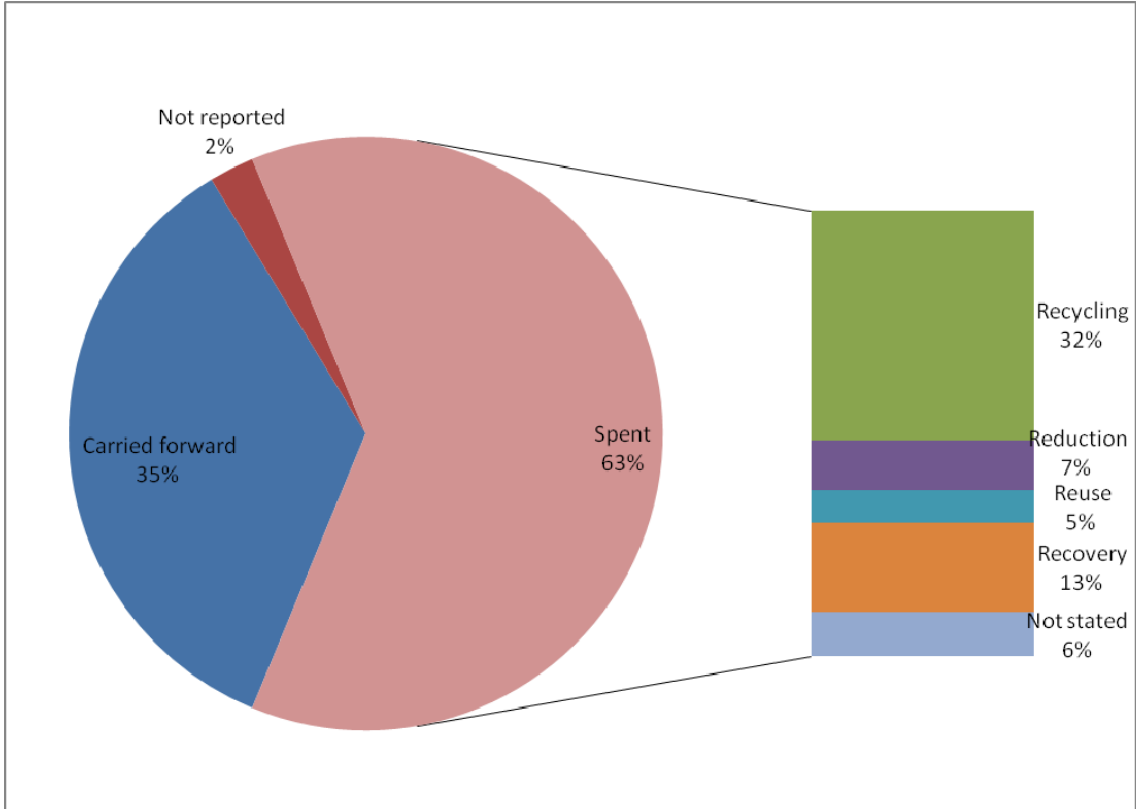
Payments have been made on a quarterly basis commencing in January 2010. Territorial authorities may spend levy funds in the year in which they are received or carry them over for future waste projects. Payments made have totalled around \$3 million per quarter, with a total of \$12,555,018 distributed in 2010.

The funding each council received per annum ranged from \$1,908 for the smallest council to \$1,261,438 for the largest. Approximately half the value of the payments has gone to the 64 councils (88%) with populations less than 100,000, while the other half has gone to nine councils (12%) with populations over 100,000. Note these figures are based on payments made to 73 councils before the amalgamation of the Auckland councils.

The establishment of the Auckland Council in November 2010 has resulted in new official population figures for Auckland and Waikato, while population figures for the rest of the country are based on the 2006 Census. The 2010 population estimate for Auckland increased its population by 10.8%, while Waikato's increased by 5.9%. This has resulted in Auckland's payments increasing by 6.5% and Waikato's by 1.7%, while payments to all other councils decreased by 3.9%. With the cancellation of the 2011 Census, this issue may not be resolved until the next Census is held in 2013.

Figure 2 illustrates how councils spent their 2010 levy payments, based on council reporting to the Ministry in January 2011. The figure shows that 60% of the total value of payments was spent – on recycling, reduction, reuse and recovery – while 35% was carried forward to be spent at a later time.

Figure 2: Council expenditure of levy funding by waste minimisation method



Note: Figure represents percentages of the total value of payments made to territorial authorities in 2010.

Conclusion

Funds have been allocated to councils. Most councils have spent these funds on waste minimisation activities, although almost a third have carried the funds over for use on future waste minimisation activities.

5. Funds are allocated to projects (to promote or achieve waste minimisation).

The levy revenue remaining (once half has been distributed to territorial authorities, and administration costs are subtracted from the remainder) is allocated through the Waste Minimisation Fund to projects that promote or achieve waste minimisation.

The first funding round opened on 1 December 2009 with a deadline for applications by 1 March 2010. A second funding round opened in December 2010 and falls outside the scope of this review.

The first round of the Waste Minimisation Fund attracted 163 eligible applications worth approximately \$55 million, and allocated \$6,536,641 to 25 projects. A further \$6.5 million (approximately) was contributed by project partners, as the Waste Minimisation Fund does not fund 100% of project costs. The first funding round did not allocate all of the funds available as there were not enough applications of sufficient quality to qualify for funding.

Projects receiving funding were for a duration of between one and three years commencing from July 2010; therefore none of the projects were completed at the time information was collected for this review. Projects receive funding against milestones as they progress, rather than being fully funded at their commencement. Accordingly, for the purposes of this review it is more appropriate to assess the total value of the funds allocated in the first round rather than funds spent to date.

Funded projects can be broken down into three project types: infrastructure and/or services; education and awareness; and investigative (table 2). They can also be broken down into waste streams as illustrated in table 3, and table 4 gives a breakdown by value.

Table 2: Funded projects by type

Project type	Number	Percentage by project type	Amount approved	Percentage by amount approved
Infrastructure and/or services	10	40	\$4,061,796	62
Education and awareness	5	20	\$1,559,305	24
Investigative	10	40	\$915,540	14
Total	25	100	\$6,536,641	100

Table 3: Funded projects by waste stream

Waste stream	Number	Percentage by waste stream	Amount approved	Percentage by amount approved
Hazardous waste (including oil)	1	4	\$50,000	1
Tyres	1	4	\$300,000	5
Construction and demolition waste	1	4	\$173,731	3
Inorganic waste streams – multiple	2	8	\$88,000	1
Organic waste	4	16	\$1,280,740	20
Other waste (including wood, resin and textiles)	4	16	\$452,000	7
E-waste	4	16	\$1,377,865	21
Packaging (including glass and paper)	8	32	\$2,814,305	43
Total	25	100	\$6,536,641	100

Table 4: Funded projects by value approved

Project value	Number	Percentage by number	Amount approved	Percentage by amount approved
\$ 750K – 2M	3	12	\$3,385,500	52
\$ 200 – 750K	4	16	\$1,320,815	20
\$0 – 200K	18	72	\$1,830,326	28
Total	25	100	\$6,536,641	100

The Ministry has been tracking how well projects deliver on their agreed outcomes, results or key performance indicators in terms of:

- delivery against what was agreed
- measurable difference – the degree to which the project can measure or verify its outcomes (environmentally, socially, economically and culturally)
- project sustainability – whether the project will endure (or evolve) post-funding.

The 25 projects receiving funding through the first round were assessed against the above measures for the period until March 2011. Of these, 10 were rated as good, eight were adequate, one was poor, and for six projects it was too early to tell how well they were delivering against their outcomes.

A map of the projects funded through the Waste Minimisation fund is included in Appendix 2.

Conclusion

Funds have been allocated to projects through the Waste Minimisation Fund. It is not possible to determine the success of the projects as they are still underway.

Medium-term outcomes

As the medium term outcomes are not expected to be achieved in the timeframe for this review, the analysis in this section focuses on the status quo. Only two of the medium-term outcomes could be assessed because there has not been enough time for behaviours which respond to the imposition of the levy to be adopted yet.

The information gathered for the review builds a baseline for future comparison and assessment of medium- and long-term outcomes.

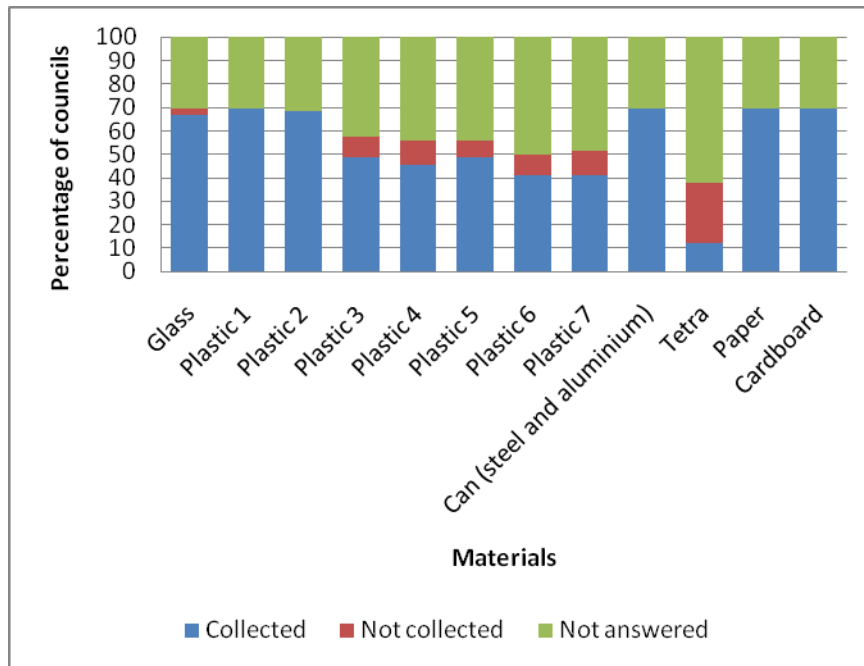
6. Waste minimisation infrastructure and services are improved.

The 2011 survey of territorial authorities conducted by WasteMINZ and the Ministry for the Environment looked into the *waste management and minimisation* services offered by councils. There are several limitations in using this information as one council did not respond, and not all respondent councils answered all questions. The survey primarily covered services provided by councils rather than commercial operations within the councils' districts. Information relates to the general public's access to services rather than participation rates. The questions from the survey relevant to this review are included in Appendix 1.

In relation to kerbside services, responses were received from 50 councils representing 1,434,061 households. Of the households where additional information was provided, it was found that general refuse collection is provided to 86%, recycling to 86%, organic collection to 17%, and inorganic to 44%.

Figure 3 shows the materials collected by councils in kerbside recycling. Table 5 shows how many councils offer kerbside collections for organic materials. Table 6 sets out the additional waste services available in councils' districts.

Figure 3: Recyclable materials collected in kerbside collections by councils



Note: Based on 66 councils that responded to the WasteMINZ / Ministry for the Environment survey. The remaining council that did not respond is not included in the figures.

Table 5: Organic materials collected in kerbside collections by councils

Organic materials collected at the kerbside	Number of councils
Green waste only	2
Food waste only	1
Both green waste and food waste	3

Note: Based on responses from six councils.

Table 6: Additional waste service available in councils' districts

Additional waste service	Number of councils	Percentage of respondent councils
Public place recycling	32	55
Resource recovery park	28	48
Support WasteTRACK	8	14
Hazmobile	10	17
Public access transfer station(s)	45	78
AgChem	17	29
Agrecovery programme	41	71
Animal waste	7	12
Special wastes	22	38
Drop off centres	28	48
Other	11	19

Note: Based on responses from 57 councils.

Conclusion

Councils offer a range of waste services, but, as there is no baseline information for comparison, it is not possible to determine whether these have improved since the introduction of the levy.

7. Waste minimisation is encouraged and promoted.

This outcome has not been assessed in this review because there is not enough data to assess the outcome.

8. The public appropriately responds to price signals.

This outcome has not been assessed in this review because there is not enough data to assess the outcome.

9. People dispose of less waste and minimise more waste, particularly harmful waste.

This section assesses waste quantities:

- disposed of at levied disposal facilities
- disposed of at un-levied facilities
- reused, recycled or recovered.

From the levy's introduction in July 2009 until the end of December 2010, 3,762,007 tonnes of waste was disposed of at disposal facilities which are subject to the levy. Data on waste disposal collected before July 2009 was collected using a variety of methods and cannot be relied upon or used as a basis of comparison. Since the levy's introduction, three of the original 53 disposal facilities have closed, and one additional facility has opened.

It is not possible to obtain any accurate information or a reliable estimation of the amount of waste sent to cleanfills or managed fills. Christchurch City Council is one council that specifically requires this information but the information could not be provided for this review.

Twenty-two councils provided annual tonnage information on council recycling collections. Based on the information provided, the average weight of material recycled per person per year is approximately 87 kg. The distribution of materials could be broken down as follows:

- glass: 42%
- plastic: 7%
- cans (steel and aluminium): 4%
- paper and cardboard: 48%.

A useful measure of whether people are disposing of less waste and minimising more over time will be disposal quantities relative to both gross domestic product (GDP) and population.

Statistics New Zealand's GDP figures give a value of \$134,908 million for the 2010 calendar year, and an estimate for the resident population at 31 December 2010 of 4.39 million.

Based on disposal quantities (at disposal facilities subject to the levy) for the 2010 calendar year of 2,525,977 tonnes, the average New Zealander disposed of 575 kg of waste in 2010. Nineteen tonnes of waste was disposed of for every million dollars in GDP in 2010.

Information on harmful waste is not available for this review.

Conclusion

It is not possible to determine whether the amount of waste disposed has reduced because there is no comparable baseline data.

Long-term outcomes

Long-term outcomes have not been assessed in this review. As the levy has been in operation for only two years, it is not expected that there will be any progress against these outcomes yet.

Conclusions

At such an early stage in the waste disposal levy's operation, only limited conclusions can be drawn.

The waste disposal levy has been introduced and is operating as intended. At this stage there is not sufficient evidence to determine the extent to which levy avoidance or perverse outcomes of the levy are occurring.

To date, no evidence was found of an increase in incidence or quantity of illegally dumped waste – in fact the majority of councils providing figures reported a decline in incidents. Furthermore, there is no conclusive evidence that supports concerns illegal cleanfill disposal would increase as a result of the levy's introduction. Non-compliance was an issue for some consented fills (including cleanfills, 'managed fills', and construction and demolition fills) before the levy's introduction; the number of consented fills that are non-compliant within a given year has not changed materially since the levy's introduction. However the limitations with the methodology used must be acknowledged as data has only been gathered on consented fills. It is therefore not possible to conclude that there is no problem.

The other potential area for levy avoidance is at disposal facilities themselves. The audit programme found variation in the way disposal facilities interpret and treat diverted material and cover material. The audits found potential for levy avoidance through misclassification of material as diverted. At this early point in the levy's operation it is too soon to determine how widespread or significant these issues may be.

The short-term outcomes of the levy are on track to being met. Revenue has been raised for promoting and achieving waste minimisation. The funds raised through the levy have been allocated to councils and projects to assist with waste management. The information available indicates that these funds are being used in an appropriate way, although it is too early to draw firm conclusions about the success of projects funded by the Waste Minimisation Fund. At this stage it is too soon to determine whether the cost of waste disposal has been increased to recognise that disposal imposes costs on the environment, society and the economy – baseline information from the period before the levy's introduction is not available for comparison.

Medium- and-long outcomes were not expected to be achieved at such an early stage in the levy's operation. The data collected on these outcomes as part of this review will form a baseline for future comparison.

Glossary

This glossary provides the relevant legal definitions for key terms used in this report, as set out in sections 5, 6 and 7 of the Waste Minimisation Act 2008, and regulation 11 of the Waste Minimisation (Calculation and Payment of Waste Disposal Levy) Regulations 2009.

- Disposal**
- (1) disposal means—
 - (a) the final (or more than short-term) deposit of waste into or onto land set apart for that purpose; or
 - (b) the incineration of waste.
 - (2) In subsection (1)(a), for all purposes relating to the levy, final (or more than short-term) deposit of waste means any deposit of waste other than a deposit referred to in section 26(3).
 - (3) In subsection (1) (b), incineration means the deliberate burning of waste to destroy it, but not to recover energy from it.
- Disposal facility**
- (1) disposal facility means—
 - (a) a facility, including a landfill,—
 - (i) at which waste is disposed of; and
 - (ii) at which the waste disposed of includes household waste; and
 - (iii) that operates, at least in part, as a business to dispose of waste; and
 - (b) any other facility or class of facility at which waste is disposed of that is prescribed as a disposal facility.
 - (2) In subsection (1) (a) (ii), household waste means waste from a household that is not entirely from construction, renovation, or demolition of the house.
- Diverted material**
- means anything that is no longer required for its original purpose and, but for commercial or other waste minimisation activities, would be disposed of or discarded.
- Diverted tonnage**
- the tonnage of waste or diverted material that is reused or recycled at the disposal facility, or is removed from the facility, not later than 6 months after entering the facility (or any later time that the Secretary for the Environment has agreed to in writing).
- Recovery**
- (a) means extraction of materials or energy from waste or diverted material for further use or processing; and
 - (b) includes making waste or diverted material into compost.
- Recycling**
- means the reprocessing of waste or diverted material to produce new materials.

Reduction	means— (a) lessening waste generation, including by using products more efficiently or by redesigning products; and (b) in relation to a product, lessening waste generation in relation to the product.
Reuse	means the further use of waste or diverted material in its existing form for the original purpose of the materials or products that constitute the waste or diverted material, or for a similar purpose.
Waste	(a) means any thing disposed of or discarded; and (b) includes a type of waste that is defined by its composition or source (for example, organic waste, electronic waste, or construction and demolition waste); and (c) to avoid doubt, includes any component or element of diverted material, if the component or element is disposed of or discarded.
Waste management and minimisation	means waste minimisation and treatment and disposal of waste.
Waste management and minimisation plan	means a waste management and minimisation plan adopted by a territorial authority under section 43 of the Waste Minimisation Act.
Waste minimisation	means— (a) the reduction of waste; and (b) the reuse, recycling, and recovery of waste and diverted material.

Further terms used in this report, which are not legal definitions, are:

Cleanfill	any landfill that accepts only material that when discharged into the environment will not pose a risk to people or the environment.
Landfill	a waste disposal site used for the controlled deposit of solid wastes onto or into land.

Appendix 1: Survey of territorial authorities

In 2011, a survey of territorial authorities was conducted by WasteMINZ and the Ministry for the Environment. The purpose of the survey was to collect data on the types of waste infrastructure, services and quantities managed by or known to territorial authorities.

The survey questions relevant to the review of the effectiveness of the waste disposal levy, and the response rate to these are included in the tables below (actual response data can be found in the body of the report where appropriate).

The survey was conducted in January 2011 and was sent to all territorial authorities (67) to complete online. The survey was completed to varying degrees by all but one territorial authority. It was not mandatory for the respondents to identify themselves, meaning it is impossible to identify the territorial authority that did not complete the survey.

Table A1: Do you have incidents of illegally dumped waste?

Responses	Count
Yes	56
No	3
Not answered	7

Table A2: How many incidents of illegal dumping did you have for the last reporting period?

Responses	Count	Number of incidents
Responded	30	3744
Provided unquantifiable response	17	NA
Not answered	19	NA

Table A3: How many incidents of illegal dumping did you have for the reporting period prior to that?

Responses	Count	Number of incidents
Responded	26	3753
Provided unquantifiable response	17	NA
Not answered	23	NA

Table A4: What is the 'estimated' annual tonnage of waste collected from illegal dumping?

Responses	Count
Less than 1000 tonnes	44
1000 to 2000 tonnes	3
2000 to 5000 tonnes	0
5000 to 10,000 tonnes	1
More than 10,000 tonnes	0
Not answered	18

Table A5: How many households are in your district?

Responses	Count	Number of households
Provided answer	50	1,434,061
Not answered	16	NA

Table A6: How many households are serviced with council kerbside collections? (all responses)

Responses	Refuse collection	Recycling collection	Organic collection	Inorganic collection
Number of responses	53	49	34	34
Number of households serviced	1,247,406	1,161,989	178,425	466,058
Not answered	13	17	32	32

Table A7: How many households are serviced with council kerbside collections? (responses where total households was also provided)

Responses	Refuse collection	Recycling collection	Organic collection	Inorganic collection
Number of responses	50	46	32	33
Number of households serviced	1,233,110	1,147,693	178,425	466,058
Number of households (total)	1,434,061	1,337,425	1,033,137	1,059,164
Percentage of households serviced	86	86	17	44

Table A8: What kerbside recycling model do you offer?

Responses	Glass	Plastics							Cans	Tetra	Paper	Card-board
		1	2	3	4	5	6	7				
Collected	44	46	45	32	30	32	27	27	46	8	46	46
Not collected	2	0	0	6	7	5	6	7	0	17	0	0
Not answered	20	20	21	28	29	29	33	32	20	41	20	20

Table A9: What are the 'organics' that are currently collected from the kerbside?

Responses	Count
Green waste only	2
Food waste only	1
Both	3
Not answered	60

Table A10: What additional waste services are available in your district?

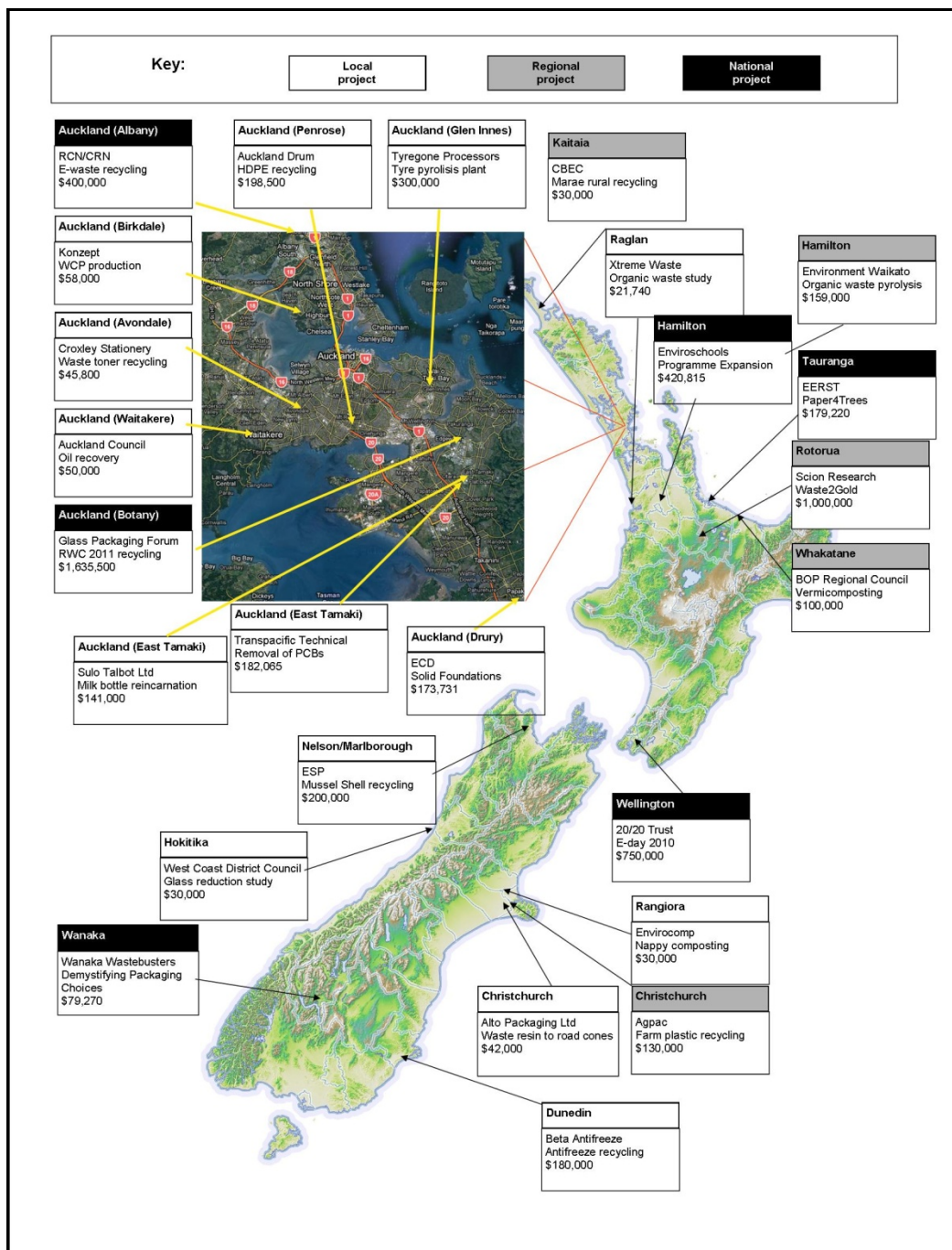
Responses	Count
Responded	58
Not answered	8
Public place recycling	32
Resource recovery park	28
Support WasteTRACK	8
Hazmobile	10
Public access transfer station(s)	45
AgChem	17
Agrecovery programme	41
Animal waste	7
Special wastes	22
Drop off centres	28
Other	11

Table A11: If known, what is the annual tonnage collected for each type of recyclables?

Responses	Count	Total tonnage				
		Glass	Plastic	Cans	Tetra	Paper
Responded	22	92,574	14,519	8,037	–	107,441
Not answered	44	NA	NA	NA	NA	NA

Appendix 2: Location and range of projects funded by the Waste Minimisation Fund

Figure A1: Location and range of projects funded by the Waste Minimisation Fund



Note: This map shows the office locations for fund recipients to give an indication of the geographic distribution of waste minimisation funding. Many projects cover wide geographic areas, as illustrated by the colour coding indicating whether the project operates on a local, regional or national level.