



## National Resource Recovery Taskforce

### New Zealand's options in response to effects created by the implementation of the National Sword Policy

Date Submitted:	29 October 2018	Tracking #: 2018-B-04894	
Security Level	IN CONFIDENCE	MfE Priority:	Non-Urgent
To Hon Eugenie Sage, Associate Minister for the Environment		<b>Action sought:</b>	<b>Response by:</b>
		Approval	16 November 2018
Actions for Minister's Office Staff	<b>Return</b> the signed report to the Ministry for the Environment		
Number of Attachments	Titles of Appendices: 1. National Resource Recovery Situational Analysis, Eunomia Research & Consulting Ltd (NZ) 2. Proposals for Short to Medium Term Responses to National Sword, MRA Consulting Group 3. Table of Analysis (summary of National Resource Recovery Taskforce responses)		
Note any feedback on the quality of the report			

## Executive Summary

### Purpose

1. To provide you with findings of the internal Ministry National Resource Recovery Taskforce (the Ministry NRR Taskforce).
2. To seek your approval to meet and discuss the Ministry's preliminary proposal to implement recommendations.

### Key Messages

3. In February 2018 China enforced its National Sword policy (announced in February 2017) aimed at restricting the importation of low quality recyclable products. This enforcement has resulted in an oversupply of some recyclable product to overseas markets and a decline in international commodity prices.
4. In June 2018 you directed the establishment of an internal Ministry National Resource Recovery Taskforce to examine New Zealand's resource recovery sector and potential responses to effects created by China's National Sword policy.
5. The Ministry NRR Taskforce engaged Eunomia Research and Consulting (Eunomia) and MRA Consulting Group (MRA) to undertake a situational analysis on the effects of changes in commodity prices in New Zealand (Appendix 1), and develop potential recommendations. MRA identified 15 potential recommendations (Appendix 2). Including three further potential recommendations proposed by the Ministry's Taskforce (Appendix 3), 18 were tested with two working groups – a resource recovery sector professional group and a local council working group.

6. The Ministry assessed all potential recommendations and identified eight we believe will effectively address the effects of China's National Sword policy on the resource recovery sector in New Zealand.
7. The eight recommendations are identified for their close alignment with circular economy aims and the recommendations of the Waste Disposal Levy review 2017. If implemented they will strengthen New Zealand's resource recovery sector, support onshore reprocessing, encourage system level change and significantly contribute to the development and transition of New Zealand to a circular economy.
8. The Ministry has prepared a preliminary proposal for your consideration that describes implementation of these recommendations in three workstreams, including alignment with the prioritised Resource Efficiency and Waste portfolio work programme.
9. Recommendations proposed in Workstreams One and Two may be initiated within twelve months of the date of this briefing. Workstream Three recommendations are considered long-term projects and may be scoped and developed for implementation within twelve to twenty four months of the date of this briefing
10. These proposed recommendations will be integrated with the approach to a circular economy plastics strategy for New Zealand.

#### **Next steps**

11. Meet to discuss NRR Taskforce findings, and the preliminary advice and proposed recommendations of the Ministry, supporting New Zealand's resource recovery sector to respond to the effects created by China's National Sword policy.

## Recommended Actions

We recommend you:

12. **Agree** to meet with officials to discuss the National Resource Recovery Taskforce findings and recommendations and preliminary proposal for implementation

Yes/ No

## Signature

*Nigel Clarke*

29/10/2018

PP

Hinemoa Awatere  
Director, Investments and Partnerships

Date

Hon Eugenie Sage  
Associate Minister for the Environment

Date

## Ministry for the Environment contacts

Position	Name	Cell phone	1 <sup>st</sup> contact
Responsible Manager	Nigel Clarke	s(9)(2)(a)	
Director	Hinemoa Awatere	s(9)(2)(a)	✓



## Background

### *National Sword Policy*

1. Until this year China was the world's largest importer of recyclable products. In February 2017 China introduced the National Sword policy to restrict imports of low quality waste materials, and in February 2018 applied strict enforcement of this policy with the Blue Sky enforcement action. It is considered unlikely that China will change its policy in the foreseeable future.
2. National Sword introduces strict quality controls for recycling materials accepted into China. The policy requires a contamination rate for recyclable products to be less than 0.5%. This restriction is not presently economically or practically achievable for most New Zealand material recovery facility (MRF) operators, and has resulted in oversupply of international markets for some recyclable products and a decline in international commodity prices.
3. Whilst earlier Chinese policies resulted in markets for our recyclable products being diversified into South East Asia (as well as China), current commodity price changes have more significant, immediate and potentially adverse implications for New Zealand's resource recovery system and industry.
4. South East Asia markets are becoming saturated. Malaysia has begun to address the difficulties also and it is likely this market may also become more restrictive. Other countries such as Vietnam, Thailand and Indonesia may follow suit.

### *Effects on New Zealand Resource Recovery Sector*

5. There has been significant growth in the type and volume of potentially recyclable resources available in New Zealand. Many of these products are now collected in domestic kerbside collections.
6. With limited opportunities to remanufacture resources domestically, and relatively few opportunities to sell recycled products or processed materials for use in New Zealand, recyclable materials are primarily sold to overseas processors.
7. Currently, New Zealand does not have capacity to process all of its recyclable materials onshore (glass, clean cardboard, PET and HDPE plastics). Some infrastructure for fibre products exists and the plastic reprocessing sector is in early stages of development. The lack of market demand for recyclable products and materials hinders growth of the New Zealand domestic plastic recycling sector. In the fibre industry, the cost of investing in the remanufacturing plant has limited growth in onshore processing. End markets for paper and cardboard exist.
8. There are significant data gaps about the movement of recyclable material in local and global markets. These information gaps reduced the ability of the Taskforce to provide an expansive analysis of the working groups' suggested recommendations.

### *The New Zealand Industry*

9. New Zealand's resource recovery sector (collection, sorting and processing) has investments worth in excess of \$3 billion, with a turnover of approximately \$1 billion per year. The sector employs between 15,000 – 20,000 staff.
10. The sector manages approximately 1.295 million tonnes of material per annum. Overall quantities are dominated by ferrous metals, paper and cardboard, with glass also being an important component. Notably, material from household sources makes up approximately a quarter (27%) of the total quantity of material.

11. Whilst domestic resource recovery may have a high public profile, commercial and industrial sources produce the highest quantities of quality material for the resource recovery sector.
12. Kerbside recycling is now reasonably well established. Market dynamics commonly determine resource recovery commercial outcomes in New Zealand, and a range of methods for collecting, sorting and processing recyclable materials does exist. Until now, commercial contracts between resource recovery collectors and councils reflected the level of risk each is willing to take.
13. Changes in global commodity prices, due in part to the National Sword policy, have placed pressure on the New Zealand resource recovery sector by introducing operational challenges to the waste management and minimisation system. These changes have increased financial risks to businesses, councils and tax/ratepayers.
14. The changes are forcing system adaptation and response, and present New Zealand with a timely opportunity to improve, develop and perform strongly in its resource recovery efforts.

#### *The Markets*

15. Globally, resource recovery collectors have relied predominantly on China as a steady and reliable outlet for the sale and reuse of recyclable commodities. When China's market policies began to implement restrictions, the New Zealand sector adapted by identifying alternative markets in India, Thailand, Vietnam, Malaysia and Indonesia.
16. Global prices have had a significant impact on direct and related international markets used by New Zealand businesses, and subsequently, on the financial viability of resource recovery in New Zealand.

#### *Establishing the National Resource Recovery Taskforce*

13. At your direction an internal Ministry National Resource Recovery Taskforce was established in June 2018.
14. Eunomia Research and Consulting (Eunomia) and MRA Consulting Group (MRA) were engaged to undertake a situational analysis on the effects of changes in commodity prices in New Zealand and develop potential solutions.
15. Council and industry working groups met with Eunomia, MRA and the Taskforce on two occasions in July and September 2018.

### **Taskforce Investigation**

#### **Situation Analysis**

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17. The Eunomia report set out an overview of the resource recovery sector in New Zealand and a summary of the impacts of changes in commodity prices both internationally and domestically (see Appendix 1). A brief summary of key findings are highlighted below.

#### *Marketability of Products*

18. Eunomia's analysis concluded that ferrous metals and clean cardboard fibres continue to be good materials to collect and sell for recycling. Markets for glass, clean cardboard, PET and HDPE plastics continue to maintain a level of stability because they can still be sold. Markets for mixed plastics (usually grades 3 – 7) and mixed paper and cardboard have collapsed.



19. Mixed plastics have a much lower percentage and weight of products in the system, but with a higher volume they have received higher levels of publicity. Mixed paper and cardboard cannot be stored outdoors and must be exported. With some space limitations mixed plastics can be stored until suitable markets are identified. Prices for mixed paper and cardboard have had the biggest impact on viability of the kerbside collection system.

#### *Collection Systems*

20. Differences in contractual arrangements exist throughout the sector. Collection systems and contract arrangements differ from council to council, between private sector collectors and materials recycling facility (MRF) operators.
21. Including 20 MRF operators, the market is dominated by four who cover approximately 76% of households. The significant differences between the MRFs make it difficult to identify particular market issues affecting their viability.
22. The current market-based model has led to a high amount of flexibility in the sector and has previously proven its economic and environmental viability. However, it is evident that the system is under pressure at the moment, demonstrated by a rising number of requests for changes in commercial contracts between councils and MRF operators, and between collection companies and their customers.

#### *Contamination and logistics*

23. Contamination occurs in two forms. The first by items that are not accepted in the recycling and recovery systems, the other where one recycled material is mixed with another. Both are costly and each require different handling methods. Present kerbside contamination is higher than it could be and a focus on improving quality by reducing contamination levels is required. Reasons for contamination include the range of packaging available, public confusion about what can be recycled, and in some instances, the inclusion of waste in kerbside collections.
24. Removing contamination and sorting material to specific grades adds cost as more sorters and/or equipment may be required, sort lines may need to be slowed down, and storage and logistics become more complex.

#### *International Markets*

25. Global systems and markets have been affected by the changes in market demand and prices. The main products affected are mixed paper grades and mixed plastic. The restrictions imposed by China's policy is impractical and uneconomic for most international recyclers. Fibre imports to China dropped from roughly 21m tonnes annually to 2.5m tonnes in 2018, with plastics being affected in similar ways. While decreases in commodity prices were relatively common in the past, only specific materials are presently affected and price reductions are not likely to recover unless alternative markets are developed.
26. The main international response to commodity price changes have been a shift to other markets, for example Vietnam, Thailand, Malaysia, Indonesia, Taiwan and India. These markets are not considered a sustainable solution because, even when combined, their total capacity is much smaller than China's former capacity. Additionally many of these countries have begun to implement their own import restrictions to mitigate the effect of the influx of new waste imports.
27. A further response includes attempts by operators to meet the contamination threshold restrictions imposed by China to enable the continuation of export, and/or to increase domestic processing capabilities.
28. Processing infrastructure and capabilities for fibre and plastics require high investment and an extensive development time. It may take a minimum of 5-10 years for former markets

development elsewhere. The possible withdrawal of additional markets decreases the likelihood of a quick market recovery. Many exporting countries, such as Malaysia, are now reviewing their domestic resource recovery systems with a view to change.

### *Findings*

29. In New Zealand the effect of changes in commodity prices have been similar to those in other countries.
30. The situational analysis demonstrated major impact on market prices in two product areas – mixed paper and cardboard, and mixed plastics. Prices for these two product streams are now negligible. A number of smaller operators have been stockpiling predominantly mixed plastics as a commercial response to the current situation.
31. While market demand continues for glass, clean cardboard, polyethylene terephthalate (PET) and high-density polyethylene (HDPE), plastics and metals, prices for these commodities have decreased.
32. All collection and sorting methods have been similarly affected, but some factors are enabling operators to retain access to high value markets. These factors include minimising contamination, sorting to ensure a wide range of single type material streams and maximising quality of products.
33. Prices received for mixed paper and cardboard particularly have an effect on the viability of kerbside collection systems, primarily as sales for those products have paid for the operation of the collection.
34. Although some small-scale domestic processing for plastic material exists in New Zealand, its capacity is limited and increases in capacity are unlikely due to a lack of end markets. Secondary reprocessing may result in products for further manufacture being available for sale in a variety of markets.
35. Commercial collections constitute a high percentage of collected materials and are largely contaminant free, providing opportunities for further reprocessing in New Zealand.
36. New Zealand operators have indicated that in the short term they are financially stable. They have advised the potential for operational difficulties in the medium term (within 6 months).

### *Commercial Responses*

37. Main responses by operators to changes in markets include:
  - smaller operators stockpiling plastic
  - using financial reserves to cover lost income (many companies have indicated their reserves are nearing exhaustion)
  - discussing and reviewing contract terms with customers and councils
  - improving effectiveness and efficiency in processing materials

### **MRA Report (Appendix 2)**

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38. MRA was engaged in July 2018 to set out a summary of immediate effects and responses by the sector. MRA worked with working groups to develop proposals for strategic short-medium term responses (6 – 24 months) to alleviate existing pressures on New Zealand's resource recovery systems.
39. The MRA report describes four levels of intervention available to mitigate issues arising from the decrease in commodity prices. The interventions are at household, materials



- recycling facility (MRF), onshore processing and government levels. MRA outlined response options, including benefits, disadvantages, and financial costs and merits.
40. Limited data records regarding the production, local and global movement of New Zealand's recyclable materials, a number of assumptions were made by MRA to support analysis.

## National Resource Recovery Taskforce Analysis

41. The Taskforce and working groups reviewed and considered 18 potential recommendations (15 from MRA and 3 by its own submission).
42. In considering each of the 18 potential recommendations, the NRR Taskforce applied the following measures:
- Does the recommendation address some/all key issues raised by the working groups?
  - Does the recommendation require or recommend a national approach, government intervention (eg, required for national consistency, regulations, or policy intervention).
  - Does the response align and support the Ministry's key work priorities (ie, circular economy, investment approach, waste minimisation objectives).

## NRR Taskforce Recommendations

43. Eight recommendations were selected for their ability to meet some or all measures. The NRR Taskforce agreed recommendations may be combined to form three workstreams, supporting a strategic and efficient approach to system change.
44. The Ministry proposes you consider these recommendations for adoption and implementation.
45. The workstreams and aims are:

<b>Workstream One</b> (short to medium term)	Addressing immediate issues and impacts (short to medium term): contractual requirements and resources for collection services and processing
<b>Workstream Two</b> (medium term)	Building a more resilient resource recovery sector in New Zealand (medium term): infrastructure and service improvement
<b>Workstream Three</b> (long term)	Enabling system change (long-term): long-term system change

46. Workstream descriptions are set out below, including the eight proposed recommendations listed a) to h).

*Workstream One (short to medium term): Addressing immediate issues and impacts*

47. This workstream aims to improve council collection services and processing, with a focus on existing and new contractual obligations. Building onshore capability through the improvement of infrastructure and services is also a focus. This will be delivered through improvements to collections (kerbside and commercial) and primary processing (MRF) to ensure quality and volume.



48. The following activity is recommended:

- a) Develop model contracts – a suite of model contract, specification and supporting documents for waste management and resource recovery services (eg, gate fee variations, introduction of contamination bands, commodity price risk-sharing).
- b) Conduct an infrastructure and services stocktake/database (includes domestic re-processors) to inform future waste minimisation investment approach.
- c) Review of domestic kerbside and commercial collections – types of collection and development of key messages, for use by a range of organisations, to reduce contamination.

*Workstream Two (medium term): Building a more resilient resource recovery sector in New Zealand*

49. Investigate feasibility of secondary processing in New Zealand to support local tertiary manufacturing of recovered products or sale to overseas markets. The focus of this investigation should consider demand and material type to ensure economic sustainability. The Taskforce notes that Auckland Council has initiated a project on domestic paper and cardboard processing.

50. The following activity is recommended:

- d) Investigate feasibility of increasing domestic fibre mill capacity and plastic reprocessing.
- e) Investigate feasibility of low value plastics (grades 3 – 7) transition to high value packaging.

*Workstream Three (long-term): Enabling system change*

51. Examining the need for regulatory intervention is important, including to determine the use of tools like mandatory product stewardship and other mechanisms aimed at preventing low value products production and introduction.

52. Procurement is a critical lever in determining the overall success of resource recovery in New Zealand. Nationwide adoption across the system is important (ie, not just by government). MBIE has initiated a programme of work at the direction of Minister Parker.

53. The following activity is recommended:

- f) Examine the role of product stewardship for packaging.
- g) Investigate feasibility of packaging content and recyclability regulations.
- h) Work with MBIE to progress a positive procurement policy – local, central and business.

## Conclusions and Advice

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54. The Ministry recommends consideration and adoption of the Taskforce's proposed recommendations. Implementation will strengthen New Zealand's resource recovery sector, support onshore reprocessing, encourage system level change and significantly contribute to the development and transition of New Zealand to a circular economy.

55. These proposed recommendations will be integrated considered with the approach to a circular economy plastics strategy for New Zealand.

56. Improving Materials Recycling Facilities (MRFs) and quality of community collection facilities are examples of immediate actions that may be investigated for commercial feasibility, directly and positively supporting the resource recovery sector to address

issues, support a national approach and contribute to New Zealand's transition to a circular economy. Industry, councils and the Ministry would also benefit from developing key educational recycling messages for local communities.

57. Review and consideration of recycling drivers is important to ensure product design and system innovation radically improve the quality and economics of reusing or recycling materials.

58. The sector is being challenged to reset its functions, review and maintain its ongoing viability, and more effectively distribute costs throughout the market and supply chain.

#### *Proposed implementation, funding and timeframes*

59. Aligned with the current priority work programme, these workstreams are practical measures that build infrastructure and systems towards a circular economy approach to resource efficiency. The recommendations will be integrated with the CE plastics strategy.

60. The Ministry proposes that implementation of workstreams and recommendations is funded by the Waste Minimisation Fund.

61. Under section 38 of the Waste Minimisation Act (the Act) you are empowered to fund waste minimisation projects. Recommendations described in Workstreams One and Two are eligible for funding under this provision in the Act.

62. Recommendations proposed in Workstreams One and Two may be initiated within twelve months of the date of this briefing. Workstream Three recommendations are considered long-term projects and may be scoped and developed for implementation within twelve to twenty four months of the date of this briefing.

63. It is likely that Workstream Three may result in development of regulations that are not likely to meet the funding eligibility requirements of Section 38 of the Act. In this event they will require funding and implementation through baseline Departmental Operating Costs.

#### **Risks and Mitigations**

<b>Risk</b>	<b>Mitigations</b>
Government not seen to be addressing the impacts of fluctuation in commodity prices on New Zealand's resource recovery sector.	The Minister established a NRR Taskforce and now receives a proposed approach to short, medium and long-term responses.
MfE capacity and resources to deliver workstreams and recommendations	Combination of WMF fund and baseline to cover costs.
Inability to secure historic and commercial data to inform the national database.	A consistent model contract with district/regional resource for enforcement.
Lack of a nationally consistent approach to the implementation of model contracts, due to commercial requirements and legislative ability.	Include information on commercial law and contract variation processes.
Lack of accurate and nationally applicable data to precisely assess advantages, disadvantages and costs, resulting in a number of assumptions which cannot be accurately assessed.	Address assumptions through Request for Applications.



## Next Steps

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Meet to discuss NRR Taskforce findings, and the preliminary advice and proposed recommendations of the Ministry, supporting New Zealand's resource recovery sector to respond to the effects created by China's National Sword policy.

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