

Level 3 90831

NCEA Education for Sustainability (EFS) 2018

AS 90831: Analyse the impact that policies have on a sustainable future (5 credits)

Achievement	Achievement with Merit	Achievement with Excellence
Analyse the impact that policies have on a sustainable future.	Analyse in depth the impact that policies have on a sustainable future.	Critically analyse the impact that policies have on a sustainable future.

Overall level of attainment for 90831

<ul style="list-style-type: none"> Analyse the impact that policies have on a sustainable future. Identifies the forces that have shaped at least two policies. Explains the relationship between these policies and the aspects of sustainability. Draws conclusions based on evidence and examples on the impact of the policies on the aspects of sustainability. The impact on policies will be based on an analysis of the practices to implement them. 	<ul style="list-style-type: none"> Analyse in depth the impact that policies have on a sustainable future. Uses at least two forces per policy, e.g. political, cultural, environmental, social, and/or economic. Explains how forces have shaped at least two policies in the context of sustainability. Evaluates in depth the extent to which these policies achieve their intended outcomes. Where possible includes Māori Concepts and Values relating to environment, which may vary between hapū and between iwi. 	<ul style="list-style-type: none"> Critically analyse the impact that policies have on a sustainable future. Analysis includes discussion on the ability of both policies to achieve its intent. Analysis provides insight on the extent to which both policies achieve a sustainable future. Analysis includes Māori Concepts and Values relating to environment, which may vary between hapū and between iwi.
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Level 3, Education for Sustainability, 2018

Standard number: 90831

Analyse the impact that policies have on a sustainable future

The Impacts of the Auckland Waste Management and Minimisation Plan and Waste Minimisation Act on a Sustainable Future

The Impacts of the Auckland Waste Management and Minimisation Plan and Waste Minimisation Act on a Sustainable Future

Executive summary

There is currently a big issue within New Zealand with single-use plastic and unnecessary waste it is producing. The rubbish issue is having many damaging effects on our environment, and our reputation of “100% pure NZ”. This report discusses the Auckland Waste Management and Minimisation Plan and Waste Minimisation Act for New Zealand. These two policies focus on the issue of waste and improve systems for managing and processing waste, hence making the process more sustainable. The purpose and intent of these policies will be identified, along with the forces that shaped the development of each. The key practices from the policies will then be analysed and finally, conclusions will be drawn on what extent the policies contribute to a sustainable future. Both the Auckland Council and New Zealand government have created policies in an attempt to reduce and mitigate the damage caused by rubbish, with varying degrees of success.

Auckland Waste Management and Minimisation Plan

Section One: Introduction

The first policy presented is the Auckland Waste Management and Minimisation Plan (WMMP). There have been two versions of the WMMP, one created in 2012 and one in March 2018. I will be analysing both versions throughout the report as there is limited data on the impacts of the 2018 version, as it is so recent. This plan was implemented to encourage both Auckland households and commercial companies to reduce their rubbish volumes. Auckland Council has an ambitious main goal to have Zero waste by 2040, as this will have many positive benefits for the city.¹ This goal will be achieved by creating a circular economy, meaning all waste can be repurposed in some way. Some of these benefits include creating job opportunities in remanufacturing and reprocessing, increasing tourism and simply enjoying a clean and sustainable environment. The other purposes of the policy are to simply reduce the amount of waste generated, both generated from households and commercial companies. Other goals include maximising resource recovery and finding alternatives to landfill, as well as reducing the harm of residual rubbish.

The three key targets are as follows:

1. reduce the council's own in-house waste by 30 per cent/capita by 2018
2. reduce domestic kerbside refuse from 160kg per capita to 110kg per capita per year (30 per cent reduction) by 2018
3. reduce total council- and private-sector-influenced waste to landfill by 30 per cent from the baseline of 0.8 tonnes/capita/year by 2027²

¹ Auckland Council. *Auckland Waste Management and Minimisation Plan 2018*. Date retrieved 10/8 from <https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/topic-based-plans-strategies/environmental-plans-strategies/docs/wastemanagementplan/auckland-waste-management-minimisation-plan.pdf>

² Auckland Council. *Auckland's Waste Assessment 2017*. Date retrieved 28/10 from <https://www.aucklandcouncil.govt.nz/have-your-say/topics-you-can-have-your-say-on/waste-minimisation-management-plan/supportingdocuments/auckland-waste-assessment-2017.pdf>

Section two: Influence of external forces

Political:

The first Waste Management and Minimisation Plan (WMMP) for Auckland was created in 2012, with Mayor of the time Len Brown overseeing the act. This initial policy was created to meet the requirements of the Waste Minimisation Act 2008 (WMA), to promote effective waste disposal in the city. At this time there 0.8 tonnes of waste for every Aucklanders, equating to 1.174 million tonnes of waste. This was a key force in shaping the 2018 act, as it gave the council a starting point to improve upon for the 2018 version. Many other legislation documents were also looked at in the formation of the 2018 WMMP. This included Local Government acts of 2002 and 2010, Climate Change Response Act 2002 and Resource Management Act 1991 among many others.³ The goal of zero waste was then established in 2002 to counteract the ongoing issues of landfill rubbish. It was then further influenced by the Auckland council working with a group called Zero Waste International Alliance in 2004.⁴ Auckland council brought these political and social aspects of sustainability to light in an attempt to get households aware of their actions. The current 2018 WMMP still reflects this goal, as it is highlighted along with the other steps that have been made towards this goal so far.

Cultural:

One important cultural aspect of sustainability considered was the local iwi and Māori beliefs towards how we treat our environment. This is outlined in the act by taking into consideration kaitiakitanga, which is the belief we have an obligation to look after our earth and the resources it provides for us. An example of this is not allowing food leftovers to enter our waterways and oceans, instead giving it back to Papatūānuku, where appropriate. As Auckland has the biggest Māori population in New Zealand, it was important for the council to integrate their particular views while creating this particular act. This was done by working with iwi and the mana whenua & mataawaka identifying priorities for Māori. This was both a social and cultural force that shaped the policy and encouraged more sustainable practising. This is an ongoing relationship as there are various obligations requiring the Auckland Council to enable Māori participation in decision-making, in recognition of the Treaty guarantee of tino rangatiratanga.⁵

Environmental:

In Auckland specifically, the 2018 WMMP was shaped by the statistics that showed waste was increasing. In 2012 the waste per capita per year was 0.8 tonnes, by 2016 this was over a tonne.⁶ It is likely that some of this waste increase was due to the population spike that has occurred in recent years, however that did not account for 100% of the increase. The goal was to decrease this 0.8 tonnes by 30%, a huge step backwards in regards to environmental sustainability. This clearly demonstrated to the council that something needed to happen to invoke change. The council created the new WMMP as a result of the waste increasing, as it was clear they would not reach their goal, thus being a force that shaped the formation of the policy.

Section 3: Policy implementation

The Waste Minimisation and Innovation Fund

The policy put increased focus on priority waste streams, as so much of our waste is coming from private and commercial sectors. The actions within the WMMP are to advocate for a higher waste levy and

³ Same as above- 4.2 Legislation – Mana ā-ture

⁴ ZWIA. Date retrieved 26/10 from <http://zwia.org/>

⁵ Auckland Council. *Auckland Waste Management and Minimisation Plan 2018*. Date retrieved 10/8

⁶ Auckland Council. *Auckland's Waste Assessment 2017*. Date retrieved 28/10 from <https://www.aucklandcouncil.govt.nz/have-your-say/topics-you-can-have-your-say-on/waste-minimisation-management-plan/supportingdocuments/auckland-waste-assessment-2017.pdf>

develop plans to address construction and demolition waste that could be avoided.⁷ A significant policy implementation from the 2018 WMMP is the introduction of the Waste Minimisation and Innovation Fund (WMIF). This comes as the act announces it will give a grant from \$250 to \$25,000, towards organisations advocating for waste minimisation actions. This relates to the purpose of the policy, as the efforts are to reduce waste generation, why was why the act was created. The actions coming out the WMIF, which are supported by Auckland Council, fall into two categories, education on sustainability and mitigation of soft plastic.

Para Kore

The first aspect aided by the WMIF is the education on sustainability. This implementation has had success so far, from small individuals to large companies using the grant to fund their sustainability ideas. A successful practice occurring from this policy is the formation of closed looped circuits in many Marae, through a programme called Para Kore ki Tāmaki.⁸ A closed looped circuit is a practice where no waste is produced through the use of goods, it all has a purpose. An example of this is using food scraps for gardening and feeding livestock, so no food is wasted at the Marae. By having the Auckland council respect the Māori culture and practices, and working closely with iwi (specifically Ngāti Whātua o Ōrākei), significant quantities of organic and recycling waste were saved from landfill. Significant progress was also made to change practices in households of people involved in the project, to look for waste-free alternatives.

This relates directly to the WMMP as they are finding other uses for their waste as opposed to dumping them in landfill, therefore reducing household waste. The programme nationwide has diverted near 250 tonnes from landfill, since it's formation in 2011. The Auckland branch has managed to get people in a Whanau with 4-5 members, and a baby in nappies, to produce only one 240L bin a year.⁹ This is a huge step from the average Aucklander who produces 145kg a year, as of march 2018.¹⁰ Comparing these stats we can see what a significant difference the Pare Kore ki Tāmaki programme is making in Auckland, by aligning with Māori values and core beliefs.

Community Education

The practice of education of waste issues continues with the WMIF. Last year 15 grants were administered, from researching flies for waste processing to simple school worm farming.¹¹ This is again another practice that is focusing on educating communities to enable them to make smarter recycling choices. One example on a smaller scale is Vanessa Lim. She used the grant to create puberty packages to educate intermediate aged kids about sustainable sanitary options such as reusable pads and cups.¹² This will help reduce the amounts of single-use products ending up in landfill, as well as educating a new generation on how our current society and systems can be improved. Community education is important in meeting with the one of the goals of the plan, which is to reduce domestic kerbside waste. Education is one of the most important tools to sustainability, as it enables communities to learn how to live a waste free lifestyle, which is vital come 2040.

⁷ Same as above

⁸ Auckland Council. *Auckland Waste Management and Minimisation Plan 2012*. Date retrieved 22/8 from <https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/topic-based-plans-strategies/environmental-plans-strategies/Documents/waste-management-minimisation-plan.pdf>

⁹ Facebook. *Para-kore*. Date retrieved 18/9 from <https://www.facebook.com/parakore/posts/para-kore-in-t%C4%81maki-makaurau-ng%C4%81-mihi-nui-ki-a-koutou/1371358959560218/>

¹⁰ NZ herald. *200,000 tonnes of rubbish sent to landfill a year - and that's just Auckland*. Date retrieved 18/9 from https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11957595

¹¹ Auckland Council. *Waste Minimisation & Innovation Fund: April 2017 funding round successful applications*. Date retrieved 10/8 from <https://www.aucklandcouncil.govt.nz/grants-community-support-housing/grants/regional-grants/docs/wasteminimisationfund/wmif-april-2017-recipient.pdf>

¹² Stuff. *Council funds for waste minimisation ideas*. Date retrieved 22/8 from <https://www.stuff.co.nz/auckland/local-news/eastern-courier/102781123/council-funds-up-to-5k-for-waste-minimisation-ideas>

Auckland Soft Plastic recycling programme

A larger movement funded by the WMIF is the Auckland Soft Plastic recycling programme. This is an example of the WMMPs second strategy, mitigation. The project is a voluntary initiative, with product stewardship displayed throughout. It works by having soft plastic bins in supermarkets around Auckland, where customers simply dispose of their waste. The plastic is then shipped to Australia with a company called Replas, who then create goods from the plastic for a number of different uses.¹³ They are a partner of this project, who then profit over the purchasing of goods created from the plastic. Goods like benches, bollards and parking signs can be purchased online, by councils in countries worldwide.

This practice relates to the intent of the WMMP plan, as if Aucklanders and eventually the whole nation begin to recycle soft plastic our landfill waste will decrease massively. This is also a step towards the goal of waste-free by 2040, specifically on remanufacturing and repurposing materials into goods, a practice that is targeted in the act. Unfortunately though, it is not the best way to tackle the waste and recycling issue.

It can be argued this money could go towards focusing on the reduction of waste as opposed to mitigation. While the idea of soft plastic recycling is encouraging, there is not actually a high demand. “A lot of soft plastics had no monetary value for recycling companies.”¹⁴ As well as this, soft plastic is downcycled, as everytime it is melted down and re-moulded the quality of the goods decrease. It is a myth this plastic can simply continue being recycled forever, eventually the quality will be so poor that it will ultimately end up in landfill. This defeats the whole purpose of recycling as rubbish is still being created.

Being waste-free by 2040 is the goal for Auckland, so potentially a better investment would be supporting and creating ways soft plastic can be reused. We need to focus more on reducing waste as opposed to mitigation if we wish to reach this goal in the next 20 years. Business incentives for sustainable packaging or reprimands for plastic covered goods could encourage Aucklanders to think twice about packaging. Another alternative would be funding and supporting alternative packaging, and educating businesses on how they can change current practices. To achieve the waste-free by 2040 goal it is clear Auckland city will have to undergo a drastic change in mindset and start thinking innovatively to solve waste issues.

A second issue to this practice is that the programme is not Auckland wide, it is only in a select few supermarkets and public areas. Last year we sent 17,000 tonnes of soft plastic to landfill, however only 360 tonnes of soft plastic were collected under the scheme.¹⁵ Again the programme is a good step in the right direction, but to mitigate significant amounts of landfill waste more recycling has to occur, along with less consumption of plastic.

Section 4: Conclusion/Impact

Environmental

The Auckland Waste Management and Minimisation plan is creating a positive impact on the environment, by encouraging reusing of waste, recycling of soft plastics and funding innovative waste

¹³ Recycling. *SP recycling programme Akl*. Date retrieved 27/8 from https://www.recycling.kiwi.nz/files/5014/4840/0516/SP_brochure_singles.pdf

¹⁴ Stuff. *Plastic bags battle won but the war against non-recyclables far from over*. Date retrieved 22/8 from <https://www.stuff.co.nz/business/better-business/106213512/plastic-bags-battle-won-but-the-war-against-nonrecyclables-far-from-over>

¹⁵ Stuff. *Kiwis show support for a plastic bag levy*. Date retrieved 22/8 from <https://www.stuff.co.nz/environment/92949188/kiwis-show-support-for-a-plastic-bag-levy-as-soft-plastic-recycling-effort-shown-to-be-a-failure>

reduction ideas. According to the document the council has met its goal of reducing household waste from 2010-2016, which decreased 10% to 144kg.¹⁶ However my extensive research suggests otherwise. I believe while we are making impressive steps the final goal is still unreachable at the current stage, and the Auckland WMMP is not contributing to a sustainable future to the full extent. A review of the WMMP found to be more sustainable the council should focus on food waste disposal, as this is one of the areas with the biggest waste. It is recommended to meet the LCAP goals to implement a kerbside food waste collection service to achieve targets.¹⁷ Auckland is currently not going to achieve its goals of reducing kerbside rubbish from 160kg to 110kg per capita per year, unless they implement a food waste collection service. This was supposed to be implemented some time ago but delays in creating the service have meant the council is off track to achieving its goals.

Another environmental issue to address the target established in the 2012 WMMP, which is to reduce 30% of the total waste to landfill by 2027, from a baseline of 0.8 tonnes per capita per year. The council have little control over this management, as the majority of waste is managed by the private sector. It should be a priority of the Auckland Council to focus on changing this, as their progress is going backwards. The 2017/18 data shows that landfill per capita per year is actually increasing, rising to over a tonne. This clearly indicates that the WMMP is not contributing to a sustainable future to the full extent, there needs to be further focus on both food scrap collection and allowing for the council to control landfill waste, not majority private sectors.

Social

Social sustainability has been achieved to some extent with the current increased public awareness of the waste issue, thanks to the WMMP. It was recognised that in order to achieve the goal of waste-free by 2040, households and families must be educated. Over the course of a year, from mid-2016 to mid-2017 community partners of the WMMP engaged with 186,700 people.¹⁸ This impacts social sustainability as it spreads awareness of the waste issue, and simple ways that Aucklanders can slowly reduce the waste levels currently present. With the 2018 plan specifically there have been 1580 volunteers and 35 groups supported to run their own waste reduction projects, spreading the message throughout the city. These actions are contributing to a sustainable future, although they are small foundation steps they are important.

One aspect to consider however is population growth, with Auckland being New Zealand's fastest growing region. In 2017 Auckland grew by 100,400 people.¹⁹ This is relevant to the goal of waste-free by 2040, as it means Auckland waste is increasing just by sheer volume of people. A significantly higher population means more effort has to go in to educate these people on the Auckland goals and how they too can practice sustainability. So while yes the policies and actions do contribute to a sustainable future, the campaigns will have to be amplified to reach the increased population in a way that will provide the best results.

Economic

According to the plan itself, the council states *"There are significant barriers to doing better, ranging from lack of financial incentives to our rapid population growth."*²⁰ This implies economic sustainability is

¹⁶ Auckland Waste Management and Minimisation Plan 2018. Date retrieved 24/10

¹⁷ Auckland Council. *Auckland's Waste Assessment 2017*. Date retrieved 28/10 from <https://www.aucklandcouncil.govt.nz/have-your-say/topics-you-can-have-your-say-on/waste-minimisation-management-plan/supportingdocuments/auckland-waste-assessment-2017.pdf>

¹⁸ Auckland Waste Management and Minimisation Plan 2018. Date retrieved 24/10

¹⁹ Stats NZ. *Population growth*. Date retrieved 24/10 from <https://www.stats.govt.nz/news/population-growth-fastest-in-northland-auckland-and-waikato>

²⁰ Auckland Council. *Auckland Waste Management and Minimisation Plan 2018*. Date retrieved 10/8

not occurring to the full extent, if not at all with the introduction of the act. While household landfill waste is indeed dropping, commercial waste has increased significantly from 2010-2016. Large amounts of construction and demolition occurring in the city have contributed greatly to this. As Auckland expands in population it makes it harder and harder to reduce the city's landfill, due to sheer volume alone, even if many began recycling. Large one-off construction or demolition projects are actually leading causes of increased waste to landfill. To make the WMMP contribute a more economically sustainable future I believe the council and business should look into ways to reduce construction waste. Recycling or refurbishing resources should be focused on to reduce these one-off wastes, which are proving to be a leading cause of the landfill waste.

I believe there are still significant barriers present to preventing Auckland becoming waste-free by 2040. To achieve this our economy must become 'circular', meaning all waste must be repurposed by

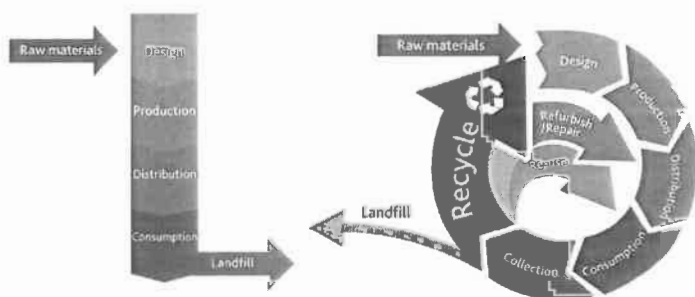


Figure 5 Linear vs circular economies

businesses. The diagram depicted here shows the two systems, which would work well in theory. However a 2017 review found there is not enough public awareness about the plan to be waste free, therefore for many businesses they are not considering reducing waste at all. This would require a drastic change in both economic and social sustainability mindset. Auckland businesses would have to change the ultimate goal from the path of maximum profit to the path of minimal environmental impacts. I believe this could be achievable by 2040, but only if the council creates rules and regulations to enforce the goal onto businesses. If we

simply wait around for businesses to change their values without putting in any laws, no change will occur. Therefore currently the WMMP is not contributing well to economic sustainability, as Auckland is relying too much on non-renewable resources and producing excess waste from construction and demolition. To contribute further to an economically sustainable future I believe laws should be in place that prevents businesses from producing extreme amounts of waste, or charges more for waste disposal.

Another aspect to consider is where our recyclable wastes are going, and who is affected in terms of the economy. Until recently New Zealand used to sell waste to China who repurposed it, however, this has stopped due to the sheer volumes of waste. This is a prime opportunity for the policy to enable alternatives to selling waste. Either way money will be spent, spending on waste collection citywide to send overseas, or investing in an alternative system. Currently, stockpiles of recyclable waste are being created around Auckland as businesses do not know how to dispose of it correctly.²¹ Paul Evans, WasteMinz chief executive, warns we are in a vulnerable economic position unless we address the issue. *"Without positive action to address the issue, recyclable material could be sent to landfill, councils and communities will suffer financially, and operators could go out of business."*²² Sending recyclables to landfill is an enormous step backwards, and would further prevent Auckland Council from partaking in the circular economy model. Therefore this new issue needs to be addressed by the WMMP. Potentially we could be doing more processing recycling in Auckland, as opposed to sending it overseas. This would require a short-term investment but long-term benefits. Our economy would improve with minimal transport costs, and the availability of thousands of new jobs, aiding the unemployment crisis currently

²¹ NZ herald. *NZ's recycling crisis after China ban*. Date retrieved 28/10 from https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12062016

²² Same as above

in Auckland. If the policy was to implement this it would impact economic sustainability in a positive way. Jobs would become available and GDP would rise without being at the environment's expense.

Cultural

Cultural sustainability was not overlooked in this act, with mana whenua and iwi contributing to the WMMP formation and impacts. The following five values were identified and applied to the Auckland WMMP, aligning with Māori values of waste and disposal.

1. Rangatiratanga - Self Determination
2. Kaitiakitanga - Sustain and Restore Collective resources
3. Kotahitanga - Partnership to protect taonga
4. Manaakitanga - Nurturing Relationships
5. Whanaungatanga - Forming Relationships to create change

The incorporation of these 5 values indicates cultural sustainability is being upheld with the WMMP, allowing for iwi to have an active role in Auckland's community, by encouraging waste reduction in their own way. This includes advocating for no new landfills to protect Papatūānuku, requesting the government to increase the levy and creating community awareness programs. In this aspect of sustainability, WMMP has been successful in contributing to a sustainable future. However not enough has been done to ensure the WMMP is contributing to all aspects of sustainability as, economic, social and environmental impacts need to be reconsidered.

Waste Minimisation Act (2008)

Section One: Introduction

The second policy present that focuses on waste reduction is the New Zealand Government Waste Minimisation act of 2008 (WMA), with a reprint as of January 1st 2018. This policy was introduced to discourage households and commercial firms from generating unnecessary waste. Currently, NZ is sending around 2.5 million tonnes of rubbish to landfill every year.²³ The purpose of the act, stated on the government website is to *"encourage a reduction in the amount of waste we generate and reduce environmental harm of waste and provide economic, social and cultural benefits for New Zealand."*²⁴ The goals here are similar to the WMMP, as they are both focusing on finding alternatives to landfill while increasing benefits to our society.

Section two: Influence of external forces

Political:

One of the main forces shaping NZ Waste minimisation act policy was the formation of the Waste Minimisation Bill, a private bill created by the Green party on the 4th of May 2006. It took 2 years of drafting and regulation until the act was passed in September 2008. The bill focused on discouraging pointless waste, proposing a waste disposal levy and product stewardship provisions. These two recommendations were incorporated into the WMA, hugely influencing the act and its actions. One factor that changed due to the Bill was lowering the waste disposal levy from \$25 to \$10, as this is less likely to provoke illegal dumping, an example of the bill shaping the policy.

²³ Recycle. *Why recycle?* Date retrieved 10/8 from <http://www.recycle.co.nz/problemsize.php>

²⁴ Ministry for the Environment. *About the Waste Minimisation Act.* Date retrieved 10/8 from <http://www.mfe.govt.nz/waste/waste-strategy-and-legislation/waste-minimisation-act>

Social

The WMA too has external forces that shaped the existence of the policy. Prior to the act little rules were in place to control rubbish or where people could dump waste. Often rubbish was simply dumped in communities haphazardly, with little awareness for nearby waterways, forests, or areas that would be seriously affected by the waste. As a result of this by 2007, it was recommended to develop waste regulations and upgrade disposal facilities by the OECD Environmental Performance Reviews. OECD is an international programme that assesses countries and their environmental management performance. As a result of their suggestions the WMA was created in 2008, a social force that drove the act.

Economic:

The 2008 WMA had similar influences to WMMP, however on a larger scale. One of the most influential external forces that shaped the policy was economic sustainability. We currently spend almost \$113 million a year on domestic waste services, excluding commercial use and upkeep for old landfills.²⁵ This massive budget could be spent on countless other things to improve sustainability, whether environmental or otherwise. Up to \$73 million NZD could have been generated from the recyclable material that was sent to landfill in 2016, both from domestic and commercial sources.²⁶ This means economic sustainability was and still is a huge driving force for the formation of the WMA. Historically when the act was made the most common form of waste disposal was landfill. Holes were dug and rubbish simply stuffed inside, with the goal of concealing the waste as opposed to increasing decomposition rates or looking into other beneficial outcomes. As a result of this method 115 landfills are spread throughout NZ, as of 2002.

Environmental:

During the formation of the WMA there was an increased awareness of the volumes of plastic forming, particularly in our oceans. The great pacific garbage patch sparked great public interest in 2008, when the Algalita Marine Research Foundation organized a vessel to the patch to highlight the plastic in the sea.²⁷ New Zealand is known for their diverse marine life, many nowhere else on earth, which forced the nation to take action. This was a great influence on the formation of the WMA, as it was a physical reminder of why we need to change our habits before it's too late. Many environmentalists began campaigning for the government to step in and save our country, to which they responded to with the WMA.

Section three: Policy implementation

Waste disposal levy

With the national Waste Minimisation Act (2008), one policy created was the waste disposal levy. A cost of \$10 a tonne was implemented for rubbish being disposed of at a landfill facility. The purpose of the levy is to deter New Zealanders from disposing of large amounts of landfill. It creates a realisation of both an economic cost and the huge environmental cost that previously could have been overlooked. It creates an incentive to decrease the amount of waste going to landfill, which will ultimately decrease the amount of waste overall, the main goal of the WMA.

In theory this decreases waste, however there has been little public awareness about the levy and its purpose. A survey in 2011 found 93% of the public were unaware of the Waste Minimisation Act and its

²⁵Same as above

²⁶Same as above

²⁷ Discover magazine. *The World's Largest Dump: The Great Pacific Garbage Patch*. Date retrieved 28/10 from <http://discovermagazine.com/2008/jul/10-the-worlds-largest-dump>

contents.²⁸ A report in 2017 was conducted by the New Zealand Waste Levy Action Group, consisting of both public and private sector groups. It was titled 'A wasted opportunity' and suggests increasing the waste levy will provide numerous sustainability benefits. They found that every year in New Zealand we produce 15.5 million tonnes of waste, and only recycle 28% of this waste.²⁹ Therefore our levy is not deterring enough individuals to decrease their waste, as it has been implemented now for a decade. The organisation suggests increasing the waste levy to \$140 per tonne, \$15 for inert waste and \$40 for incineration. This is a drastic increase of \$130, however would divert 3 million tonnes of waste from landfill and add \$500 million to our economy every year.

This directly benefits environmental, social and economic sustainability, currently the WMA is not doing enough to provide these benefits. This number also took into consideration the illegal dumping aspect, if the levy was too high. The research showed \$140 would not cause a huge influx of illegal dumping, however it is important the government considers this before following the group's recommendations. Perhaps there could be an adjustment period while the price rises, or stricter enforcement on illegal dumping. Currently, the levy has limited success in mitigating and preventing waste which is the purpose of the act. It is not effective in deterring large amounts of rubbish entering landfills, and should be reconsidered if the government truly wish to encourage a reduction in waste as they state in the act. While there is some improvement with the act it can definitely be updated to make a real difference in our country.

Waste Minimisation Fund

As a result of the current levy, a similar practice to the one implemented by Auckland council was created, titled Waste Minimisation Fund. The fund receives its money from 50% of the nationwide levy, which equates to \$10-12 million dollars available annually.³⁰ 159 individuals, businesses and charities have been granted funding to date, relating to a wide range of sustainable activities. The purpose of the grant is to encourage individuals and groups alike to challenge their current routines and look into ways to practice sustainability. This is seen also in the Auckland WMMP of 2018, which was created a decade after the WMA of 2008. Both policies have had the same practice established, which provide evidence that it achieves results. The WMA meets the purpose of the act, which is to reduce waste levels. By encouraging innovative and self directed groups, the fund is effective at spreading the message of waste and its impacts.

An example of a company using the funding to decrease waste is the organization Keep New Zealand Beautiful. The group was granted \$3,070,690 in 2016, from the WMF, to achieve nationwide education and awareness of sustainability in a campaign titled 'Do the right thing'. All of that money came from the levy imposed from this act, making a highly significant difference in how many individuals are reached and to what extent they are educated. This campaign has been hugely successful with the help of the act, educating 53,641 students and picking up 100,032kg of litter in 2017 alone.³¹ This clearly aligns with the purpose of the act, as it spreads awareness of the issue. These students can then go on to potentially educate others, causing a chain effect and making the WMF very effective in minimising waste.

Plastic Bag Ban

Another practice developed from the policy is the shift towards ending single-use plastic bags. It was announced in August 2018 NZ will ban plastic bags, with a phase-out of a year. This is a huge step

²⁸ MFE. *Public Awareness of WMA*. Date retrieved 19/9 from

<http://www.mfe.govt.nz/publications/waste/public-awareness-waste-minimisation-act-and-waste-disposal-levy>

²⁹ Waste Minz. *A WASTED OPPORTUNITY*. Date retrieved 19/9 from

<http://www.wasteminz.org.nz/wp-content/uploads/2017/06/A-Wasted-Opportunity-NZ-Waste-Disposal-Levy-Summary-Report.pdf>

³⁰ Govt. *WMF funded projects*. Date retrieved 6/9 from <http://www.mfe.govt.nz/more/funding/waste-minimisation-fund-funded-projects>

³¹ KNZB. *Home*. Date retrieved 7/9 from <https://www.knzb.org.nz/>

towards waste reduction, the goal of the act, as it prevents waste from even being created in this form. It is difficult to gauge the relative success of this implementation as it has not occurred. However, there is a large current political climate that is focusing on reducing single-use plastic and packaging waste, even prior to the ban. Companies like Countdown and New World are phasing out plastic bags to reduce the environmental impacts they are having on both our country and reputation. These practices have been successful, as the phasing out of bags has begun with minimal backlash. This is a success in changing people's habits and expectations as consumers, showing it can be possible. Focus now could go toward changing habits around plastic straws or other fast food plastic packaging that could be avoided.

Section four: Evaluation

Environmental

The WMA has contributed positively to the issue of environmental sustainability but definitely needs to be updated. There have been 3 reviews of the levy by the MfE, looking at its progress on decreasing New Zealand's waste. The first was in 2011 and it found that the levy was working as intended, except for a few unintended loopholes in the levy and certain facilities being able to avoid them. In 2014 recommendations were made by the MfE to ensure the WMA was still working to achieve its goals. It advised the government to focus on supporting user-pays pricing for kerbside collection, and increased understanding of factors that influence both households and businesses waste disposal behaviour. It also recommended that more data should be collected around all waste, including non levied waste and recycling. This would give a more accurate insight into our nation's waste habits and enable us to work on bettering them.

By 2017 the third review, found that only 2 of the 11 recommendations had been completed. 5 were still in progress and 4 were yet to begin, due to lack of resources and funding. The most worry aspect found was that *"Annual levied waste is increasing, indicating that the levy is not currently achieving its objective. the majority of New Zealand's waste disposal facilities are exempt from the levy and no data is available about the waste that is disposed at these facilities (MfE, 2017)."*³² This is a clear indication that the levy practice is not contributing to a sustainable future to the full extent, and should certainly be updated to ensure New Zealand continues to work towards decreasing waste rates. The WMA is now a decade old, it is time to update the act to ensure it is working on the right issues in 2018, with the correct levy price for circumstances.

Social

The WMA has made a small impact on the NZ public, however nowhere near enough to contribute greatly to a sustainable future. As mentioned prior, only 7% of the public surveyed in a 2011 inquiry knew anything about the WMA.³³ Only 2.4% knew the correct amount of the \$10 levy, accounting for less than 1% of NZ's population. The WMA clearly has failed in raising awareness of our waste issues, which needs to occur if we wish to change our nations beliefs around waste. This is a concern because without knowledge people will continue to dump waste in waterways in forests, with little regard for the environmental costs. This is therefore a barrier to reaching maximum social sustainability. To truly be socially sustainable I believe further knowledge of the waste issues should be known to the nation. Too many people take the 'ignorance is bliss approach' in regards to sustainability and the WMA should work of educating communities and groups to change this mindset.

³² Auckland Council Assessment. 2.2.1 *The Waste Minimisation Act 2008*. date retrieved 28/10 from <https://www.aucklandcouncil.govt.nz/have-your-say/topics-you-can-have-your-say-on/waste-minimisation-management-plan/supportingdocuments/auckland-waste-assessment-2017.pdf>

³³ MfE. *Public Awareness of WMA*. Date retrieved 19/9 from

<http://www.mfe.govt.nz/publications/waste/public-awareness-waste-minimisation-act-and-waste-disposal-levy>

In terms of the levy implementation, social sustainability has improved, as funding has enabled many members of the public and businesses to think creatively about minimising waste. However while some jobs were created, if the levy was raised up to 9,000 jobs would be added to this.³⁴ Therefore the WMA is not contributing to the full extent, more could be done. This would have tangible benefits for the country, increasing income for the government while subsequently deterring individuals and companies from generating exuberant amounts of waste, as they will have to pay the cost.

Economic

Currently with the WMA economic sustainability is not being reached. There is a constant focus on how to attain maximum profit, with little regard for environmental costs in New Zealand businesses. Once again if the levy is increased our economy would improve greatly. More money collected for the government means more disposable income for our nation, to spend on issues nationwide. In 2016 we missed out on \$73 million NZD due to recyclable material being sent to landfill. This is a huge loss of economic sustainability, therefore not meeting the purpose of the act. More money could have gone into the WMF, or the government themselves could look into sustainability issues that could help them meet the goals of the WMA in a smaller time frame.

Our clean green New Zealand image is a vital role for dairy/meat exports and tourism in NZ. Tourism is our biggest industry, generating \$36 billion NZD last year³⁵ followed by dairy exports, which earned \$8 billion.³⁶ Quantitative Research by the ministry for the environment found that if NZ was perceived as degraded, 54% fewer consumer products would be purchased, which is up to \$569 million lost annually. Tourism would also plummet, up to \$938 million would be lost annually, highlighting just how important it is for our nation to maintain our clean green image³⁷. For economic sustainability to continue as is, let alone improve, it is so important our country doesn't let New Zealand's environment deteriorate. The consequences would be severe, both for our economy and our physical land.

Cultural

The Minimisation Act has influenced Pare Kore to form, and create a way for Māori and Marae to minimise waste. Pare Kore means zero waste and was created in October 2009, a year after the WMA. It is a nationwide organisation that focuses on educating Maori on sustainable practices both at home and in Marae. Funding from the WMF was then granted in October 2011, giving the movement sufficient funding to reach Marae nationwide.³⁸ To date, there are 269 pare kore marae, 248.54 tonnes of rubbish diverted from landfill and almost 200,000 participants in the program.³⁹ This is clearly contributing to a sustainable future, Incorporating Māori values of whakapapa and their relationship with the earth. This shows how cultural sustainability is a large part of the WMA and will continue to be a factor in decision making around New Zealand waste issues. The funding for this is directly from the levy and therefore the WMA contributes to this to a large degree.

³⁴ Waste Minz. *A WASTED OPPORTUNITY*. Date retrieved 19/9 from <http://www.wasteminz.org.nz/wp-content/uploads/2017/06/A-Wasted-Opportunity-NZ-Waste-Disposal-Levy-Summary-Report.pdf>

³⁵ TIA. Quick Facts & Figures. Date retrieved 26/10 from <https://tia.org.nz/about-the-industry/quick-facts-and-figures>

³⁶ NBR. *Dairy sector contributes \$8 billion to GDP*. Date retrieved 24/10 from <https://www.nbr.co.nz/article/dairy-sector-contributes-8-billion-gdp-jw-199810>

³⁷ MFE. *Our clean green image: What's it worth?* Date retrieved 24/10 from <https://www.mfe.govt.nz/sites/default/files/summary-leaflet-aug01.pdf>

³⁸ Parekore. *Our Story*. Date retrieved 21/9 from <http://parakore.maori.nz/para-kore/our-story/>

³⁹ Parekore. *Home*. Date retrieved 21/9 from <http://parakore.maori.nz/>

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Excellence Exemplar 2018

Subject	Education for Sustainability	Standard	90831	Total score	07
Q	Grade score	Annotation			
1	E7	<p>The candidate has provided enough evidence for E7 in this question, because the critical analysis includes discussion on the ability of both policies to achieve their intent. The analysis also provides a degree of insight on the extent to which both policies achieve a sustainable future.</p> <p>The analysis includes Māori concepts and values relating to the natural environment.</p>			