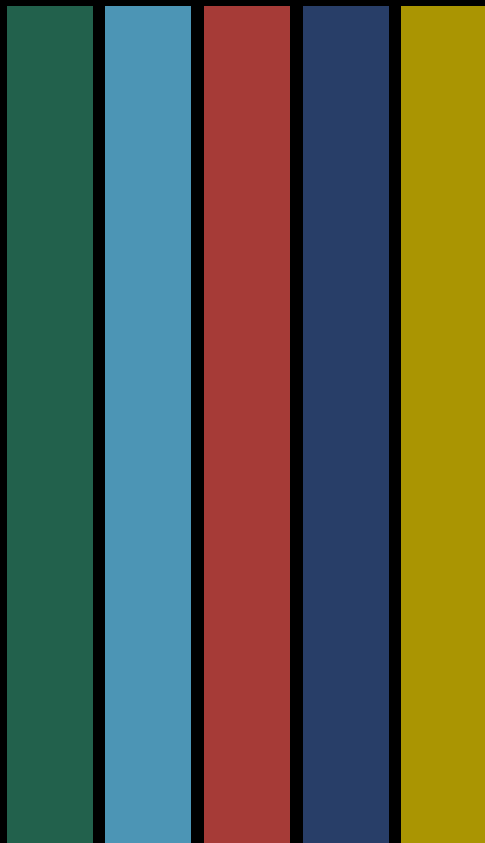


Plastic waste



Did you know?



Intro

This paper will be an insights report into the world of plastic waste. Plastic is a very popular topic of conversation, a subject that is heavily researched and debated regarding the problems and solutions. Throughout this report I will be assessing my own assumptions and see how they align, if at all, with the truth and the data I will uncover. I assume that a large portion of product consumers are to blame with a continued lack at attempting to recycle or simply choosing not to, or possibly even recycling incorrectly due to a lack of knowledge for correct disposal. I understand that this all starts with the production of the packaged goods by the companies themselves, but taking into account the power the consumer possesses within the supply and demand chain, I believe my investigation should focus more heavily in the consumer area. With plastic waste being such an important and well documented issue I shouldn't have any problem gathering this data. Using the results of this paper I will hope to gather all the information necessary to answer my question.

How can I improve the public's understanding of plastic waste in the household?

To discover a solution to this problem I want to research into problem areas that are less known when it comes to household recycling. Discover what can be done such as, what ways items can be recycled, purchasing from more environmentally friendly companies to manipulate supply and demand. More importantly, I want to engage with the public for some insights that will be relevant to the task ahead.

Within the plastic waste world, plastic alternatives have almost become a trend, from reusable beverage containers and more intelligent food packaging solutions, to paper straws and bags for life. We, as humans, are heading in the right direction, but we haven't quite hit all the bases just yet. I sat down with a snack to hone in on a problem that had not been given the same attention as the other areas, and the answer was in my hand. The snack was a packet of crisps. I read the details listed across the back only to find that there was no recycle icon, just the icon for placing the empty packet into a regular bin. Partnered with this is the message "Please dispose of this packet responsibly, or find out how you can recycle it at [Walkers.co.uk/recycle](https://www.walkers.co.uk/recycle)".



I began my research on the recycle portion of the Walkers website and came across Terracycle, a crisps packet recycling scheme that Walkers is offering to its customers. It operates through a large number of “drop off points that are located within 4 miles of 80% of the homes in the UK”.

(Terracycle.com). Through more digging to discover the origin of this scheme I found that it began due to the media storm of the public on twitter, targeting Walkers regarding their packaging not being recyclable, and the only viable way of disposal was via general waste. This is because the packets are made of a combination of fused plastics and foils which are impossible to separate entirely through the recycling process. The public followed up by sending the empty packets in envelopes to the Walkers headquarters in Leicester to prove a point. By flooding the headquarters with all of these packets, they would receive the message that a similar and larger scale scenario is happening at the landfills. This example shows how much power the consumer has with the supply and demand relationship. A problem I discovered is that of the 4 billion packets created and distributed annually in the UK, only 3million of those are ending their journey through the Terracycle scheme.



The rest, because they cannot be recycled will end up in landfills, or worse pollute our seas. There are clearly still problems, even though the public got what they wanted, it goes to show that either the majority of the public don't care about this cause, ruining the efforts of the small percentage that made their voices heard on social media. Or Walkers created the Terracycle scheme to silence the media negativity but made no attempt at raising awareness for the scheme through a campaign.

Not long after this, Walkers announced that by 2025 they plan to replace their current packaging with an environmentally friendly substitute, this is their minimum hope because their ultimate solution is to create a viable biodegradable packet which would be the perfect answer. They had attempted to use a packet made of potato starch, but it didn't meet the minimum health and safety standards required for the food industry.

Delving deeper into the information available to me online, I found that "A packet of crisps takes mere minutes to devour but the packaging can take up to eight decades to decompose. In 2012, a man found a packet of Golden Wonder crisps from 1967 on Saunton Beach in Devon, according to the Daily Mail". (Ibtimes.co.uk). This is an alarming bit of information, crisp packets take far too long to decompose, and adding to this are the billions of packets produced annually that stack year on year in the landfills and oceans. The main problems that made themselves apparent are threefold. A new environmentally friendly packaging solution is required, the pre-existing crisp packet waste already disposed of need to be dealt with, and between now and 2025 there needs to be a temporary solution until an alternate packaging solution is invented.

As I learned, a new packet is in the works and the terracycle scheme exists. For the waste already in the oceans, there are beach cleaning volunteers and "advanced technologies to rid the oceans of plastic" (Theoceancleanup.com), currently in effect. From this information, the most impactful thing that the public can do is to take advantage of the Terracycle scheme that is offered to them and volunteer on the beaches when they can.



During my research of Terracycle I came across Loop, “Shifting away from environmentally harmful, single-use product packaging, Loop creates sustainable new packaging solutions. Customers can enjoy their favourite products from popular consumer brands in refillable containers, delivered directly to their home. Loop then provides an empty container collection service and product refills as required”. (Loopstore.com).

78% of plastic packaging is recovered

[3]

74% of plastic drinks bottles are recycled

[6]

46% of plastic packaging is recycled

[4]

70% of all plastic is recovered

[5]

59% of all plastic bottles are collected

[2]

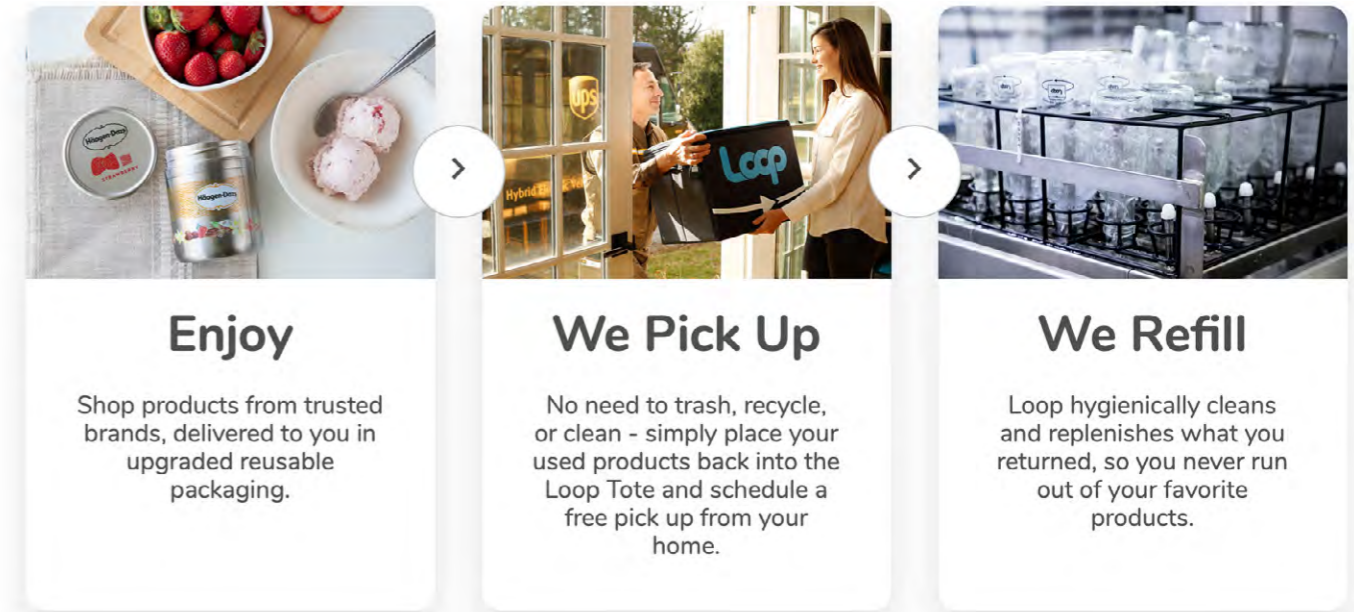
31% of all plastic is recycled

[5]

**includes all plastics used in construction and automotive, etc.*

**includes all plastic bottles, such as shampoo and bleach bottles, etc.*

**figure immediately above includes the whole of Europe*



Loop offers alternative, reusable containers and packaging solutions that will inevitably be sent back to loop after use by the consumer. The container will be cleaned thoroughly and reused and sent out again, creating a sustainable loop of goods transportation and consumption. The benefit of what this company is offering so far are solutions to more difficult packaging that would normally be difficult to recycle such as ice cream containers and shampoo bottles. But the downsides are that they haven't branched into the more necessary packaging solutions, such as those for crisps.



In the search for more avenues of potential research directions, I took to the streets to survey members of the public with questions relevant to the knowledge of recycling crisp packets, the Terracycle scheme and their opinions in general. Their ages ranged between 21 and 73, and the gender ratio was split quite even for a widespread view. Their occupations ranged between retail employees, company management and business owners, broadening the information to be as diverse as possible.

When asked if they recycle in the household, 87.5% answered yes. I'm sure that if I had carried on collecting more survey participants the percentage of recyclers would increase over time and look more positive, because according to Eunomia.co.uk, "Wales has the 2nd best household recycling rate in the world. Wales employs a consistent collection scheme country-wide." (Bpf.co.uk).

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Source: https://www.eunomia.co.uk/media_link/global-citizen-wales-is-second-best-in-the-world-at-recycling-household-waste/

I could only assume at this point that this might have been as a result of the area they lived in. It was not until I started to look back at the data that I discovered that a key question in the survey should have been "what is your post code" for reference. From this data I could feel confident that the country as a whole are doing their best when it comes to waste management within the household, and as such this wasn't a major point for concern at this point.



My next question caused some quizzical faces and comical responses, and a few participants seemed to know where this survey would be taking them. I asked them “Do you eat crisps?”, and for some reason I was surprised to find that 100% answered yes, with one person adding “You should never trust a person who says they don’t eat crisps!” It is safe to say that whatever happens to the crisp industry, it seems the whole of the UK will be involved. I’m sure there are a few people in the country who don’t partake in the cult like crisp kingdom where we live, but considering a smart looking, random person on the streets told me they shouldn’t be trusted, I will try not to worry about it too much.

Building up to the inevitable point that my survey was heading towards, the next question on the list was “How do you dispose of the empty crisp packets?” This resulted in 75% of people throwing them into general waste and the rest choosing to recycle. This paired well with the follow up question asking if they knew that crisp packets were not recyclable, where 50% answered that they didn’t, 48.75% said that they did and the final 1.25% thought that only certain types of packets were actually recyclable. Cross comparing the two previous questions, of the 75% that dispose of crisp packets through general waste, 50% of them knew that they could not be recycled. Of the 25% that dispose of through recycling, they too had 50% of people with the knowledge that crisp packets could not be recycled. This is quite an alarming combination of answers, demonstrating that there is definitely a problem with the communication of the important information that the packets in fact cannot be recycled, resulting in a large amount of people confused and unaware of how to properly dispose of this waste correctly. This was definitely a point of interest to come back to in the future.

The previous questions were designed to be easy to digest and simple so that they could be answered honestly, whilst also opening their own eyes to the lack of information they have on the current subject. Naturally after leading them to this point of having them question the scenario as a whole, and even a few asking me a version of “Well what am I supposed to do with the packets then?”

I presented them with the next question, asking if they knew or had heard about the Terracycle scheme backed by Walkers crisps. Before asking this question my assumption would be that a respectable amount of people would have actually known about the scheme and perhaps I had missed the announcement or any word of mouth of its existence.

With 98.75% answering that they had never heard of Terracycle, this was proof enough that either something had gone wrong in the induction of the scheme to the UK or it truly does back up my earlier thoughts that Walkers had used this scheme as a distraction to silence the social media voices causing a storm.

In an attempt to educate the people engaged with my survey, I went on to give a brief explanation of what Terracycle is, what it does and how to get involved themselves in a loose summary of Terracycles own words from their website. “They have 1,600 locations that are within 4 miles of 80% of homes in the UK. You collect your empty crisp packets into a cardboard box and either take it to a drop off point or post it to them for free using a downloadable and printable postage stamp”. (Terracycle.com)

From this statement alone a couple of respondents voiced their opinions regarding the problems with this style of solution. I explained that they could instead formulate their opinion as an answer to my next question “Are you likely to use Terracycle now that you know about it, or would you prefer another solution?” In response 37.5% simply answered yes, 50% explained that they would prefer a more convenient solution and 12.5% of respondents explained their own ideas of alternate solutions to the problem. The 12.5% for alternate solutions wanted to continue voicing their ideas, but I had to explain that a future question would be on that very topic if they could just wait a moment.

It is interesting looking back, that at the beginning of this survey each time I was met with scepticism for the strange topic, and around this point in the questioning I noticed a trend that the scepticism quickly transformed into passion regarding the nature of this subject. As a result, when asked where they were most likely to eat crisps, with the options being: at home, at work, out and about, or other.

The answers became a lot more calculated than I had assumed for such a simple question. After quick deliberations, 37.5% most likely ate crisps in work, 12.5% ate them out and about their day. The respondents who would most likely eat crisps in their home was at 48.75%, whereas only 1 respondent answered other, and stated that other meant in their bed. This person took pleasure in exclaiming their love for crisps, and that they were happiest eating crisps in their bed, and would do it all day if they could.

Although technically, for statistical accuracy, they should have been a part of the 'home' percentage. Whether they were joking, or just a proud individual announcing their affection for these potato snacks, I felt that this crisp connoisseur deserved their own percentage bracket, considering they were also the only individual within the 'other' answer group, placing their answer group at the 1.25% mark.

I took the previous question into consideration when I looked back at the process involved for the Terracycle scheme. It dawned on me that 50% of the people, within this closed scenario, would be valid participants in the scheme. But this would ultimately come down to whether they would even want to go through the effort of including the steps involved, into their already existing home recycling habits.

Two thirds of the respondents within the eat at home category said that they would consider using Terracycle, but saying one thing and actually engaging in that activity are two different things. When I looked at the other 50% that I collectively called 'doesn't eat at home', of the half of the respondents in this group that do recycle in the home, 100% of them said that they would not use the terracycle scheme. This made sense considering that if they did not eat crisps in their home, they would have had no reason to use the scheme when disposing of their crisp packets away from their home. This posed a further problem, how could the Terracycle scheme make an impact on this segment of the population? Most people are not going to hold on to their food package waste until they have arrived home to dispose of responsibly.



The relevance of the previous point took me smoothly into the following, and final question of my survey. “What do you think would be a more convenient solution for the collection of crisp packets through the Terracycle scheme, both in households and around cities or villages?” The data results for this question were very different to what I assumed would happen. I left this question very open ended for a diverse pool of solutions that would display the wide range of ideas and opinions of the general public.

What I found was that considering some answers were long and explanatory and others were short and to the point, they could all be roughly placed into three more viable solutions in the public's eyes.

This left me with the following data. 37.5% wanted a separate, crisp packet only, weekly collection, similar to that of general waste and normal recycling. Some recycling collections require more segregation of types of materials, and in their opinion, what harm would one more bag cause?

Although I agreed with this solution, it did raise the question. Would the government be on board to add this, along with the cost of an additional pickup of every house's packet waste, and the additional man power required? Perhaps this is a necessary route that the government must take to achieve a successful result.

The largest portion with 50% was an additional, alternative bin on the streets along with the already existing general waste and recycling bins respectively. This solution seemed like a very good idea, and would serve as a useful extra element to bolster to a new packet recycling system. Adding this, at the very least, to the already existing Terracycle system, would sure up the weaknesses discovered with the scheme, specifically, how do you target the packets being disposed of in the rest of the country outside the boundaries of the home? But it would remain as I had already stated, a sort of supplement to a household waste solution.

The final 12.5% explained that, in their opinion, that there isn't a more convenient way to deal with the responsible disposal of packet waste. The respondents in this collective did not provide me with an explanation of this opinion even when asked to, so I will either categorise these individuals as those who believe the Terracycle scheme will eventually be successful. Or that the subject was not important enough to them and in turn caused them to be quite dismissive of a conversation regarding the topic, which is respectfully their choice. This did not help with my data retrieval, but not every road is smooth.

The positive of the face to face surveys was that it allowed me to engage with a few respondents through in depth conversations about their additional thoughts and opinions in this area of waste management. They even shared knowledge with myself that they happened across from their own experiences and information they had gathered themselves.

The first of such information was an opinion of Terracycle itself. “What Walkers seem to think is that this solution was going to delay the negative feedback, and use this to just brush it under the carpet until they can find a better fix. It is just a lazy way to silence social media until they do actually come up with a better way to make their packets greener, or it’s just a great way to shut the public up and procrastinate until they start attacking them again.

Where they will probably have another trick up their sleeve”. This opinion was very angry in nature, and they had even mentioned that “All corporations are the same, they go for the cheapest option at the time because they’re putting money above the \greater good”.

People are clearly more aware these days, or at least feel like they have the information they need to be able to voice their opinion better than decades ago when information wasn’t so easily accessible. Thanks to the internet, the public are definitely better equipped to formulate intelligent opinions based on facts they have discovered.

Logically speaking, these days, I would assume more company research would go in to what solutions the public would actually back, and partake in, rather than what they as a company would assume to be the best course of action.

Considering the fact that only 37.5% of respondents in my own survey would use Terracycle, and only 12.5% could not think of a more convenient solution, I am led to believe it is not a point of raising the awareness for the scheme itself, but rather to, either make an improvement on said scheme, or create a different solution completely.

Another respondent mentioned that he had read about a compostable packet that had already been invented by a company, he could not remember the name correctly, but gave me something to work with, I took what he told me and began researching into it. It was a company called Futamura, they made a specialist packaging film named NatureFlex. It is 100% biodegradable. “NatureFlex grades are very stable and will not biodegrade or show any loss in mechanical properties on the shelf.

Biodegradation will only be initiated in a soil, compost or waste-water environment where micro-organisms are present.” (Futamuragroup.com). If packaging solutions such as this already exist then why must Walkers wait until 2025 to change their packaging? I was not ignorant to the fact that changing and adapting to a whole new packaging material requires a complete overhaul of packaging machinery, but with the means and opportunity already out there to commit to a more environmentally friendly packet, I did not understand why it was going to take 5 years to implement. They also have not given an explanation as to why.

During the survey, on many occasions, a few of the respondents asked why I was focusing on crisp packets specifically and not plastic as a whole problem. I explained that other plastic packaging is at least partly recyclable, and also have alternate container replacements. An example of this was that reusable bottles exist, and most beverages can also be packaged in cans which are infinitely recyclable. I felt that there have been advances in replacing a lot of currently used product packaging, but with crisps packets the development of change seems neglected.

I considered the possibility that if Walkers were to wait until 2025 to replace their packet materials, what impact would that have? According to the organisation 38 Degrees, Walkers themselves, not accounting for competitors, produce 7,000 packets a minute. Based on their research they are on track to produce 28bn plastic crisp packets by 2025, when the switch is said to happen. If Walkers were to stick to their plan, and they are not challenged to improve this date, then what is the next best solution. I contradicted my earlier thoughts, and decided that Terracycle might in fact be, at the least, part of the solution for the mitigation of excessive waste build-up. If the public were to meet them half way, I wanted to look at how this could be done.

I tracked back to one of the questions in the survey regarding other solutions for the collection of crisp packets currently, and looked to see if there already existed systems in place offering bins specific to packets. A company 'Glasdon' that I came across offers a variety of bins that I already see within my own university.

In university, the bins that I have seen currently offer paper, plastic and general waste options respectively. If a fourth option were to be offered in places of learning, and this extra option offered in places of work, perhaps the organisations involved with maintaining and overseeing the waste management in these place

Perhaps this would cause a domino effect that would have the public calling for more of the bins to be placed along the streets of cities and eventually to villages. This would mean that there would have to be an awareness campaign of sorts specific to the disposal of crisp packets at the least. This would involve educating regarding the inability to recycle crisp packets and how to properly dispose, or empowering the public to make their voice heard to have the correct means of correct disposal within closer reach. Possibly even a call to action to rally the public to apply more pressure on crisp companies to make a package material change sooner than later.



In conclusion, there are many problems that need to be solved. Terracycle as the scheme it is now is not enough of a solution and needs to be improved and tweaked to offer more to public places rather than only homes. The awareness of Terracycle by the British public is terrible, it may not be perfect but it is better than the only alternative of sending all the packets to landfills, and needs to be utilised the best that it can until a real solution becomes a reality.

The data on crisp packet waste is alarming and the general public need to be made aware and educated about the numbers and the impact caused. The packaging itself can already, and should be replaced with recyclable or bio degradable substitutes sooner than the date set by Walkers. The packaging solutions are out there, but are not being utilised and are not being given the attention it deserves.

People do care when given the information, they need to be provided the knowledge of this subject to equip themselves with the intellectual tools to make a difference. Because knowledge is power, and knowing is half the battle. Social media, targeting Walkers, has already proven to be effective and if there is a call to action in place to rally behind then there is nothing stopping change.

A comparison can be made for the alternate packaging solutions for all plastic packaging to crisp packet substitutes, the lack of innovation, or the lack of use for the already existing inventions. Finally the question can be adapted to apply to a call to action urging the population to voice their opinions, this can be done through either infographics or informative motion graphic, or perhaps a step by step process to back a petition, and create a discussion that gains notoriety.

Considering that many of these problems can be solved together, for a larger scale and more impactful design solution, the question should be more specific to the cause than the original, but also open enough to include these different angles to approach them with. With all this in mind and thinking about what I have discovered in this report I will change the question to something more relevant to what I want to achieve.

Circling back my original question:

– How can I improve the public's understanding of plastic waste in the household?

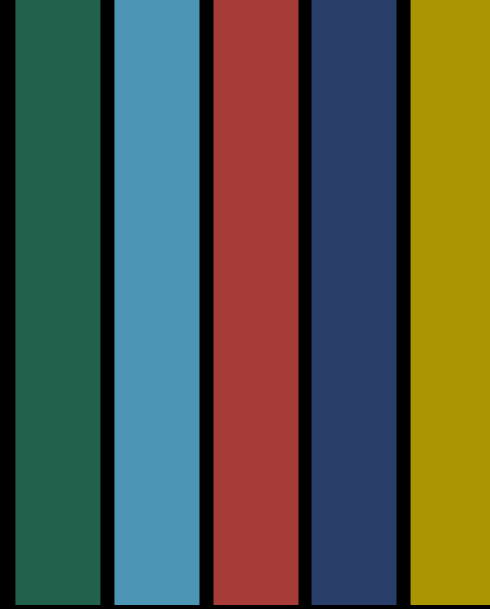
This question can still be similar but instead asking more specifically how to improve the public's knowledge of crisp packet waste. It can be relevant to the mention of Terracycle, using the question as a stepping stone to crisp packet disposal and then the scheme itself, but the question before works better at transitioning into that information. The question can be transformed into an info graphic that demonstrates the more detrimental effect packets have currently compared to the rest of plastic packaging.

How can I encourage the public to demand crisp packet innovation?

How can I encourage the public to adopt a responsible disposal of crisp packets?

How can I embolden the public to intervene with the impact crisp packets have on the environment?

The first two versions of the question only hit certain problems I found, and I wanted something more collective, so not to limit myself. The third iteration of the question is more open to the collective of problems I want to solve simultaneously.



Final Question:

**How can I embolden the public to intervene with the impact
crisp packets have on the environment?**

