“REGULATING SINGLE-USE PLASTICS IN BERMUDA: Policy paper for public consultation”

Analysis of Feedback

Ministry of Home Affairs HQ

January 2022

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Executive Summary

- There were 54 unique respondents to the consultation on the government portal, with 4 additional submissions made directly to the Ministry
- There were 129 comments made on 53 separate topics from the respondents on the portal
- There were 245 registered attendees to the five public presentations held during September, October and November 2021, and an unknown but likely substantial number of listeners to the radio talk show in September 2021
- Results of the feedback can be taken as likely representative of the bigger picture in Bermuda as a whole, as analysis showed the validity to be good
- A large majority of respondents on the forum who expressed an opinion on the policy were supportive of the proposed policy (73%), with a minority expressing a neutral or mixed-message (15%) and a small percentage not supportive of the policy at all (13%)
- Eleven themes were identified, seven major themes, and four minor themes
- Within the eleven themes, seven (two-thirds) had a predominantly solution-based focus and five (one-third) had a predominantly problem-based focus
- The major themes were majority solution focussed
- Moving away from the current heavy reliance on single-use plastics will not be an easy task, but it is one that can be successfully tackled with sufficient collaboration, public education and leadership.

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Introduction

The Bermuda Government published the policy paper "REGULATING SINGLE-USE PLASTICS IN BERMUDA: Policy paper for public consultation" in August 2021. The general public of Bermuda was asked to provide feedback on the paper and the proposals contained therein over a two month period from 1st September 2021 to 31st October 2021 on the Government of Bermuda's Citizen's Forum website (www.forum.gov.bm).[1] The majority of responses for feedback to the consultation paper were received on the government website, however four additional responses were submitted to the Ministry of Home Affairs which were accepted up to and including January 2022.

During the consultation period in September and October and into November 2021, five public information talks were also held. These were in conjunction with the Bermuda National Trust (BNT), Keep Bermuda Beautiful (KBB), the Chamber of Commerce (ChoC) and Beyond Plastic (BP). These talks were co-presented by a representative from the Ministry of Home Affairs Headquarters and one from the Ministry of Public Works.[2] The policy paper was presented alongside a brief history of plastic and the role of the Ministry of Public Works Waste Management Department. Participants were also able to ask questions, make comments and seek further information. The Minster of Home Affairs also appeared on a radio interview[3] and the Department of Communications launched a social media campaign on top tips for reducing single-use plastic (SUP) usage.

This analysis does not address the questions and feedback that were received orally at any of the public presentations nor during the radio talk show. The analysis is on the written submissions made on the forum webpage and sent directly to the Ministry.

[1] See Appendix 1 for the full list of SUP proposals in the policy paper

[2] David Northcott, Policy Analyst at the Ministry of Home Affairs and Vanese Flood Gordon, Education and Enforcement Officer (Waste Management) at the Ministry of Public Works

[3] Minister of Home Affairs, the Hon. Walter H. Roban, JP, MP appeared on MAGIC FM on 23rd September 2021

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Methodology

Thematic Analysis

The feedback on the public consultation paper was made through written submissions on the public forum webpage and directly to the Ministry of Home Affairs Headquarters. This feedback has been analysed using a thematic analysis process. A thematic analysis approach is used to try to draw out common themes or ideas from all of the responses, otherwise known as the qualitative data. Responses were coded for key words and repetitions of key words or ideas from all respondents. This was then used to identify themes and frameworks within which the responses could be categorised and understood.

The steps were as follows:

One: After familiarization with all the texts, the responses were firstly coded for a support level for the policy paper – in other words if the response was supportive of the proposals or not.

Two: Next, all the remarks were examined further and a simple count was made of all remarks made, grouping them where the remarks were similar or expressed the same sentiment.

Three: These coded responses were examined for any identifiable themes or frameworks. Once themes had been identified and named, the remarks within each theme were then grouped into the identified themes, with the number counts being aggregated in the themes and a score given to each theme to understand the level of commentary on each theme.

Four: The relative strength of each theme in the overall responses was then identified. This theme percentage does not refer to the percentage of *persons* who expressed remarks on each of the themes, but rather refers to the percentage of *remarks* on the theme made by all persons, given that some persons made comments on a number of themes.

Validity of the feedback

As well as undertaking the thematic analysis, consideration was given as to the validity of the feedback in order to make recommendations. There are two types of validity, internal and external and each pose their own challenges.

Internal validity: This refers to the confidence level that what is being tested is trustworthy and not influenced by some external factors. In particular, it is important to note the possible effects of selection bias and response bias.

External validity: This refers to the extent to which results from the feedback can be generalised to other contexts. In particular, we are concerned that the results from the feedback have the ability to be generalised to other groups of people who did not participate in the feedback exercise.

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Results[4]

Numbers of respondents

This analysis is of the submissions from both the forum and the written submissions made directly to the Ministry of home Affairs.

There were 54 unique respondents to the consultation on the government portal and 4 submissions made directly to the Ministry. As one of the submitters of a written response to the Ministry also made submissions on the portal, thus giving a total of 57 unique respondents. On the portal, there were 51 separate topics or ideas raised and there were 129 comments made on these 51 separate topics from the respondents.

Using the figures on the Bermuda Government Forum page from the past three years, the SUP policy paper ranks fifth in terms of participants and third in terms of ideas generated.

Bermuda Government Forum feedback responses 2019-2022

Economic Recovery Suggestions	428 participants	299 ideas
Municipalities' Reform 2019	217 participants	2 ideas in the final phase
A regulated cannabis scheme for Bermuda	193 participants	7 ideas in the final phase
Modernisation of laws in Bermuda	140 participants	105 ideas
Regulating single-use plastics	87 participants	58 ideas in the final phase
Managing problem invasive alien species	35 participants	6 ideas in the final phase
Work Permit Policies	34 participants	1 idea in the final phase
Public Consultation on Medicinal Cannabis	16 participants	3 ideas
Bermuda Health Plan 2020	15 participants	2 ideas in the final phase
Bermuda's race relations	8 participants	4 ideas in the final phase
A living wage for Bermuda	5 participants	1 idea in the final phase

Validity of the feedback

Internal validity

Selection Bias: Participant selection is one of a number of key factors that can affect the internal validity of the results, and there is a danger of either selection bias or response bias or both. As the participants were self-selecting, it may be difficult to know whether they can be considered truly representative of the views of all persons in Bermuda on the policy paper. This may be for at least two reasons. Firstly, there will always be some persons who will be unaware of the publication of the government policy on SUPs. Secondly, it may be argued that only those persons who hold relatively strong views either way will self-select to respond to a call for feedback. The Department of Communications uses various media outlets such as radio, television, newspaper as well as a number of social media channels to inform the public, and the extent to which the awareness of the initiative penetrates the population is outside the influence of this Ministry. The possible preponderance of persons with strongly held views

[4] See Appendix 3 for data sets

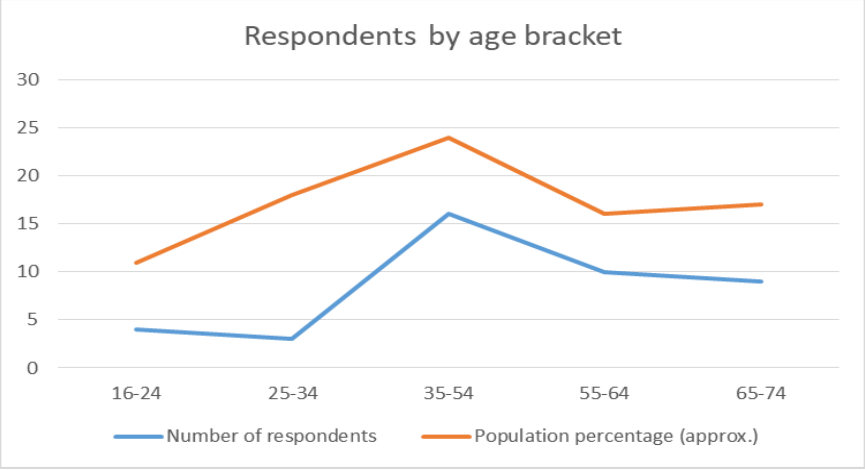
responding to the survey is also out of the control of the Ministry. Psychological research suggests however that negative stimuli have a greater impact on our brains than positive ones – this is known as negativity bias. People have less motivation when an incentive is framed as a means to gain something than when the same incentive will help them avoid the loss of something. In other words, those respondents who see the policy paper as representing a potential loss (whether it be business, money, choice, or options etc.) are likely to be more motivated to respond that those who see the policy paper as a potential gain (cleaner environment, contributing to halting climate change etc.).

Response Bias: The format of the feedback such as the requirement to register on the government forum in order to leave a response and the requirement to provide feedback online may inhibit persons from participating. Any response bias is beyond the influence of the Ministry however.

External Validity

The type of external validity concerning this study is population validity. Given the self-selecting nature of the respondents, a measure of the external validity is to compare the demographics of the respondents to the wider population. The forum asked for respondents to report their age (in an age bracket) and their place of residence.[5] Of the 54 unique respondents, the majority (42 or 78%) revealed their age in pre-defined age brackets as well as their place of residence.

Age: Just over 80% of respondents were 35 and over, compared to this age bracket making up around 60% of the population. Just under 20% of respondents were under 35, whereas this age group comprises around 29% of the population.



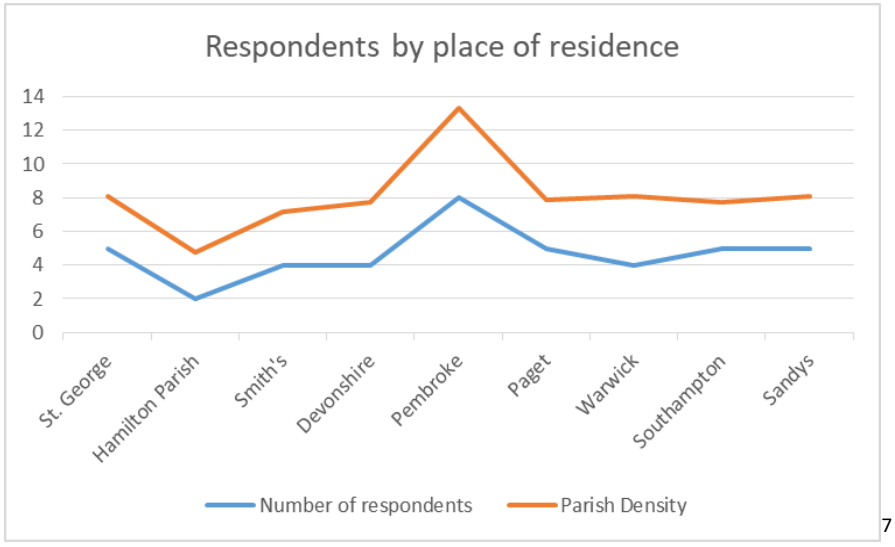
[6]

Chart 1 – Respondents by age bracket

[5] Respondents were not asked for race or gender information

[6] This is a stacked line graph. This is used to identify and compare the trends and patterns in the data. The units of measure or the scale is different in each one of the line charts. The values on the y (vertical) axis reflect the number of respondents. The values of the population percentage are stacked on top of the values of the number of respondents. The difference in the gap between the two lines of values, indicates the extent to which one data set matches the other.

Place of residence: The number of respondents by parish compared to the population density of the parish.



[7]

Chart 2 – Respondents by place of residence

Support levels for the policy

a) All responses

Responses were coded into one of four initial groupings: supportive; having a mixed message or neutral; not supportive; and not commenting on the policy itself. Around one quarter of all responses did not actually address the policy – they contained other comments regarding arranging meetings, collaborations or provided other information.

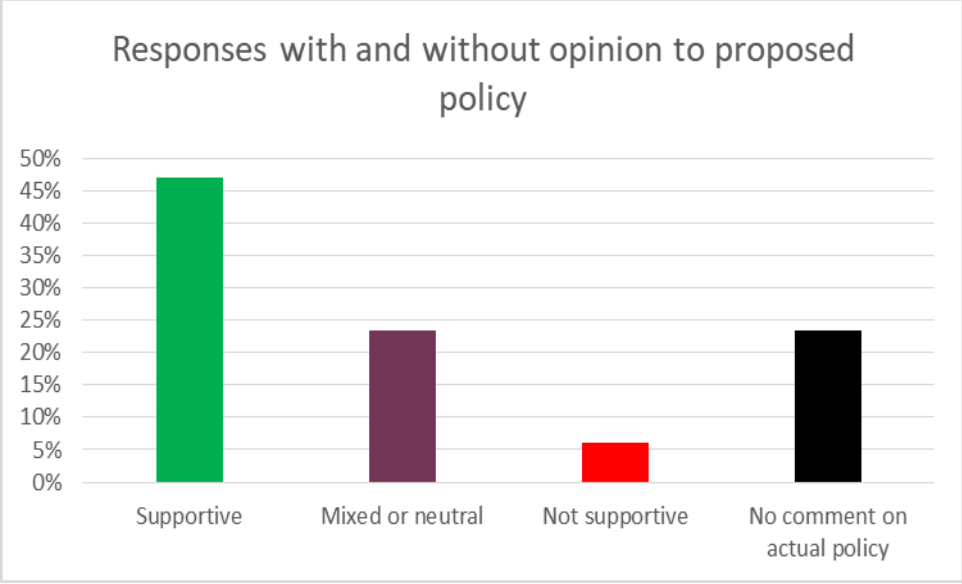


Chart 3 – Responses with and without opinion to proposed policy

[7] Again, this is a stacked line graph. The values on the y (vertical) axis reflect the number of respondents. The values of the parish density are stacked on top of the values of the number of respondents.

b) Responses with an opinion on the policy

If the responses that contained no opinion on the proposed policy are excluded, then a more meaningful picture can be drawn from the responses with regard overall support or not for the policy. Responses that did contain an expressed opinion were heavily supportive of the policy – with 61% expressing support, 31% giving a mixed message of support or neutral, and just 8% not supporting the policy.

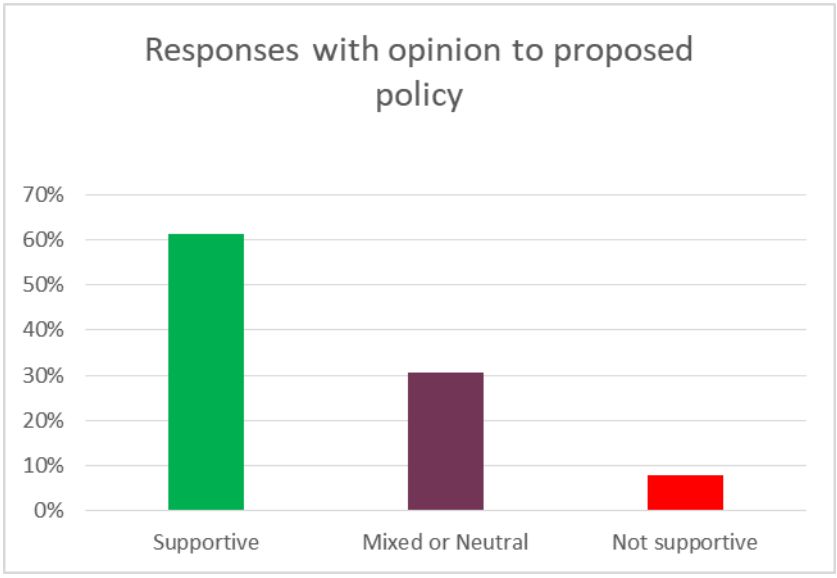


Chart 4 – Responses with opinion to proposed policy

Further aggregating these responses into 'supportive' and 'all others', then as the chart below illustrates, the overall support levels for the policy are high with a plurality of responses.

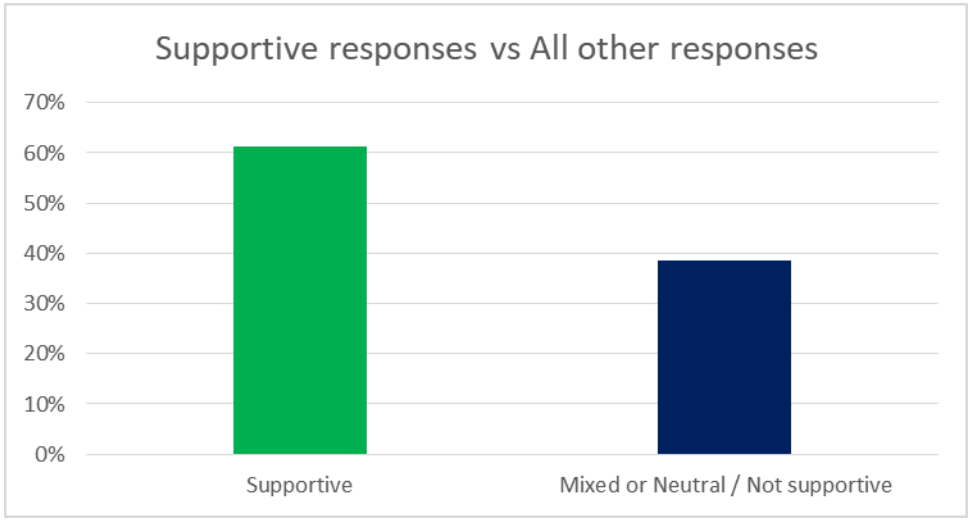


Chart 5 – Supportive responses vs All other responses

The supportive responses were then further broken down into four categories, in order to try to gain a deeper understanding of the level of support within the majority who expressed overall support for the proposed policy. There were four categories of responses within the responses that expressed support for the proposed policy.

These were:

Supportive - but expressed that the proposed policy does not go far enough in some areas
Supportive - with no other comment provided on the proposed policy
Supportive - and offered other suggestions / ideas to deal with the SUP issue
Supportive - but expressed some degree of caution with regards the proposed policy

Leaving aside the responses that did not express an opinion, the breakdown is as follows:

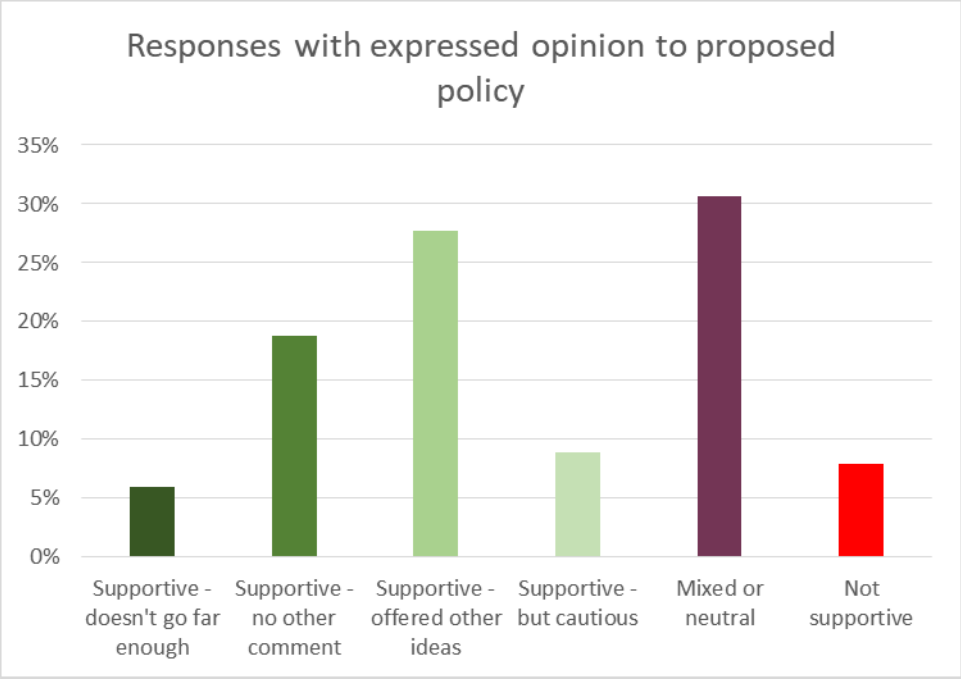


Chart 6 – Responses with expressed opinion to proposed policy

c) Reponses by unique respondents

The above analysis was based on all 132 total *responses* to the policy. 128 responses came from the forum, 4 were sent directly to the Ministry. Of these total responses, 57 were by unique individuals or organisations. 54 were on the portal, with 4 sent directly to the Ministry, although one of the written submitters also made submissions to the portal. In order to ensure that individual contributors did not skew the responses as a whole by entering a number of comments, the type of comment an individual contributor made was assessed. Where an individual had made a number of comments, the comments were assigned a support category that best reflected the majority of their comments. There were two individual contributors who expressed no opinion at all. The below charts illustrate the support level for the policy by individual respondents.

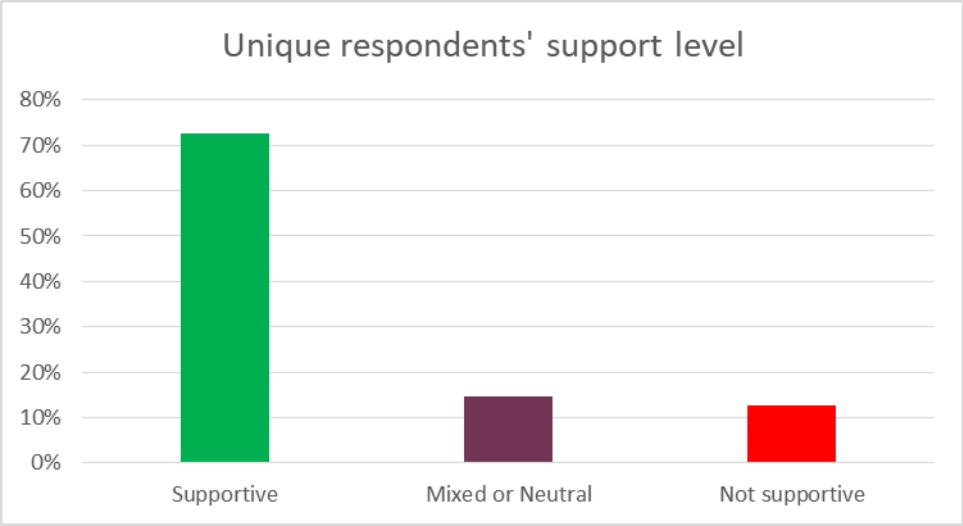


Chart 7 - Unique respondents' support level

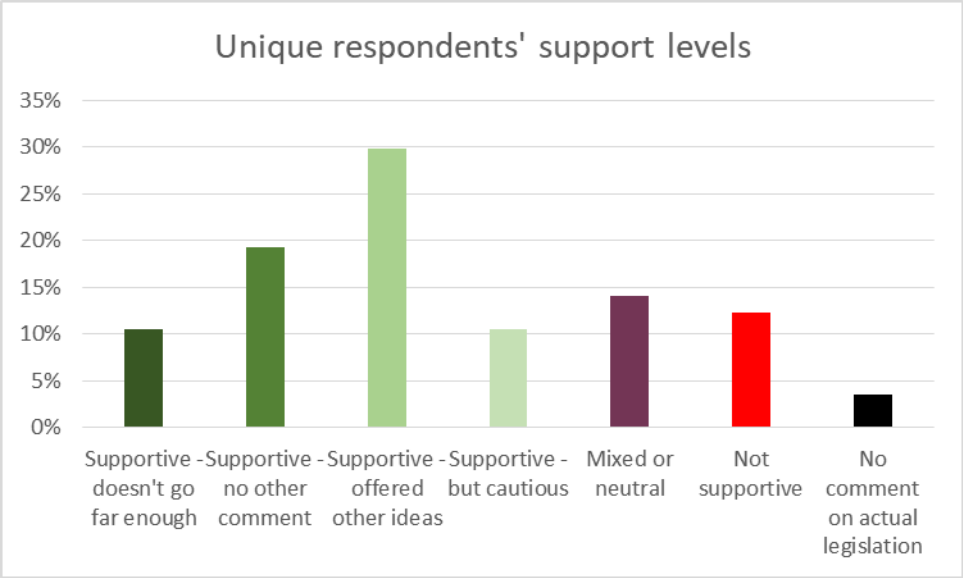


Chart 8 – Unique respondents' support levels

d) Comparison of all responses with unique respondents' responses

The support level for the policy actually increased slightly to 73% when looking at unique individuals, compared to 61% of all responses. Similarly the numbers of persons not supportive also slightly increased from 8% to 13% when looking at individual responses. The mixed message or neutral comments however declined when looking at individual responses – from 31% to 15%.

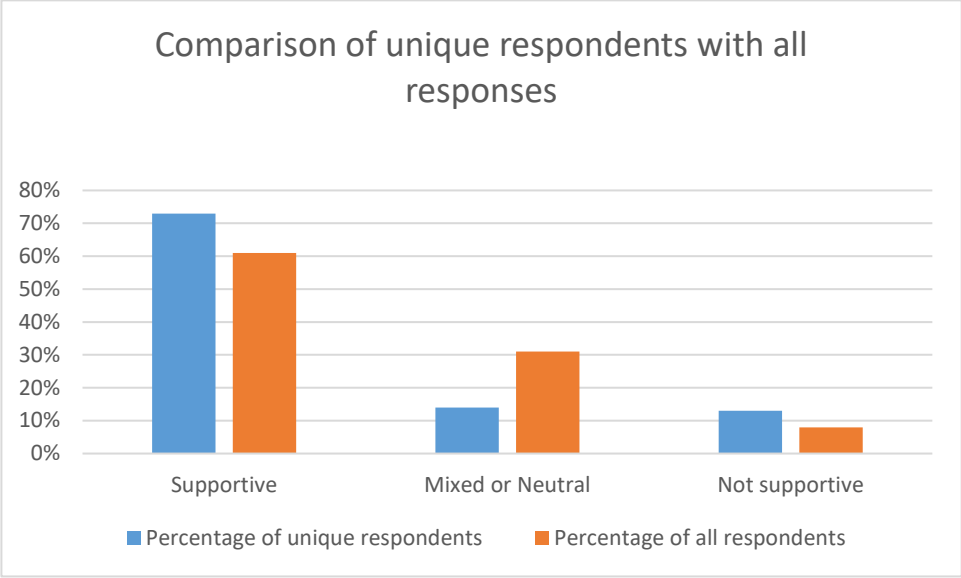


Chart 9 – Comparision of unique respondents with all responses

The chart below illustrates the skew towards more mixed or neutral responses and more responses with not opinion from all responses compared to unique respondents. The larger the gap between the lines, the more the skew.

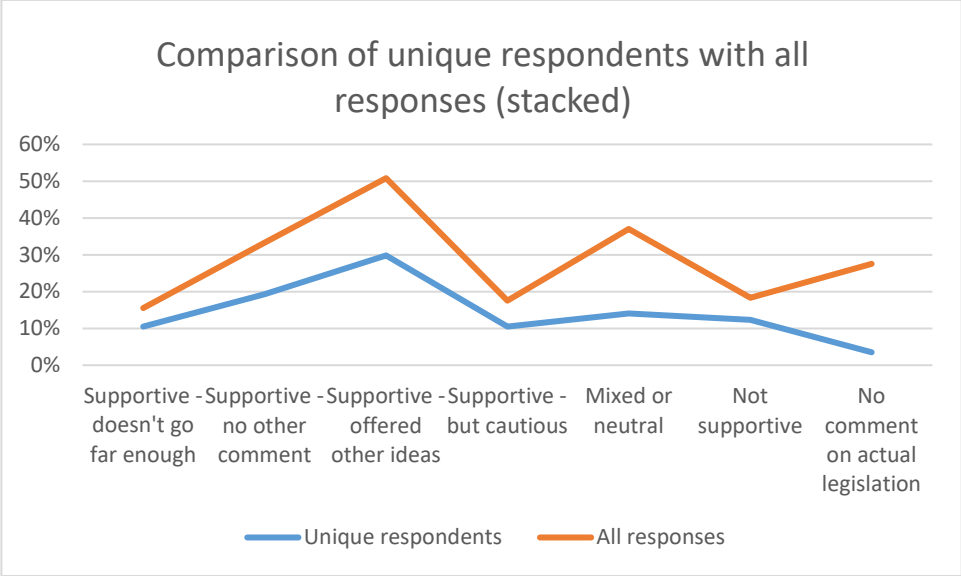


Chart 10 – Comparison of unique respondents with all responses

Thematic Analysis

There were 47 remark types made with the following counts:

Economic impact / jobs / cost / prices	19
Bring own container / surcharge if not / discount if do / recycle	17
Find workable solutions / wide collaboration	16
Supply chain issues / no leverage / access issues	14
Waste management needs addressing / improving / cctv / litter issues	12
Alternatives must also be better for the environment	11
Alter tariffs on imports	11
Hold public education campaigns	11
Phase this in / clear list of items / don't surprise us / stockpile issues	11
No alternative to some items like water bottles - delay	9
Have deposit scheme for returnable containers or borrowed container system	9
Focus on reduction	8
Make recycling mandatory / sort-at-source / recycling bins	8
Health and safety issues / broken glass / COVID spread	8
Non-industrial composting / biodegradable necessary / home composting	7
Need exemptions / disabilities / need to be clear exemptions	7
Encourage zero waste programmes / circular economy	6
Bermuda lags behind / needs to be a leader	6
Need behaviour change	6
Increased waste / quality decrease in perishables	6
Should ask if utensils are required or not	5
Recycle more glass / allow it to go to USA	5
Sustainability / inclusivity / equitability	5
Need more water stations	5
Suppliers only supply plastic	4
Ban all helium balloons	4
Extended producer responsibility	4
Need more recycling stations / places to return good for re-use	4
No SUP to be allowed in schools, parks, beaches, off cruise ships	3
We need to do our part	3
Focus on long term benefits including health	3
Problems with sugar tax	3
Eco packaging is not durable	3
Encourage selling products loose	3
Imports only come in Styrofoam / plastic	3
Govt. should lead the way in schools and prisons w education and bans	3
Storage issues with non-SUP items	2
Need affordable alternatives	2
Implement a charge for bags	2
Ban only when a replacement is available	2
Promote Bermuda as a sustainable tourist destination	2
No microbeads	2

Bulk purchasing as an island through Chamber of Commerce / co-operative buying etc.	2
Repurpose and reuse the plastic locally	2
Burn instead	1
Make scheme voluntary / have targets for reduction	1
Update health policies	1

From these remark types, thematic analysis showed a total of 11 relatively distinct themes or groupings. They are listed here with their counts and relative percentages:

1 = Point-of-sale	16%	45
2 = Economy, tariffs, and costs	14%	39
3 = Supply and storage	13%	35
4 = Sustainability of change	12%	33
5 = Public Education	11%	31
6 = Practical steps	11%	31
7 = Waste management	10%	28
8 = Promotion and positioning	5%	14
9 = Health and safety	3%	9
10 = Food quality	3%	9
11 = Other comments	2%	7

Theme	Major or minor theme	Solution or problem-oriented theme
Point-of-sale	Major	Solution
Economy, tariffs & costs	Major	Problem
Supply & storage	Major	Problem
Sustainability of change	Major	Solution
Public education	Major	Solution
Practical steps	Major	Solution
Waste management	Major	Solution
Promotion & positioning	Minor	Solution
Health & safety	Minor	Problem
Food quality	Minor	Problem
Other comments	Minor	Solution

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Discussion

Numbers of respondents

The response to the policy paper was good. Of the eleven subjects posted on the forum since 2019, the feedback ranked fifth in term of numbers of participants and third for numbers of ideas. Whilst not the most responded to subject on the forum, perhaps as it may not be felt by many to be as personally salient a subject as say cannabis or as wide-ranging a topic as economic recovery, the numbers of participants were still around double or more of any of the lower ranking forum subjects. In terms of interest the subject generated in different topics and ideas on the forum, the third rank was a very good response.

Validity of the feedback

There is often a trade-off between internal and external validity, with better internal validity coming at the expense of external validity and vice versa. For the purposes of this analysis, the external validity of the study is perhaps more desirable than internal validity – in other words having results that can be confidently generalised across the population is perhaps more important than having results that are free from any external bias in the sampling and so on.

Internal validity

Given that feedback is required by the government to gain an understanding of the general view of the policy proposals, and given that the methodology for collecting feedback on government policy is standard for all public consultations for the Bermuda Government, there is little that can be done about the internal validity of the study. With regards the potential selection bias to persons who are negatively impacted by the policy proposals, this should not be seen as problematic given that in fact these views are highly desirable to understand as the policy moves forward - these are precisely the views that are important to capture. Similarly for any response bias, as awareness of the government forum is increasingly widely known and as internet penetration is high in Bermuda, this may not be a source of major bias, particularly given that the response in terms of numbers to the feedback was good.

External validity

Two measures were used to test population validity – age and place of residence. Given Bermuda's ageing population the age range of the respondents was generally reflective of the population, however younger persons, in particular from the age group 25-34 years old, were somewhat under-represented in the responses, with older persons being somewhat over-represented, leading to some challenges in the external validity of the feedback from an age perspective. Although there is an under-representation of younger persons, this should not be viewed as overly problematic as anecdotally younger persons may be more likely to support environmental issues such as reducing SUPs. As with the potential selection bias, responses from those persons more opposed to the policy are vital to hear and thus this alleviates the potential issue of not having as many younger respondents. With regards place of residence, the number of respondents from each parish broadly correlates with the population density of each parish. Since respondents were not asked to state their race or gender, place of residence

is the only measure available to give an indication as to whether respondents reflected Bermuda's population across the islands, which it does. Thus, there can be confidence of external validity from this perspective as well. Thus, overall the two gauges of the external validity are both supportive of the feedback being relatively reflective of the population as a whole.

Overall, the analysis of the feedback can be cautiously applied as representative of the bigger picture in Bermuda as a whole.

Support levels for the policy

a) All responses

Around one quarter of the comments left on the forum did not contain a direct expression of support or otherwise to the policy. These comments were typically when participants were either sharing knowledge or engaged in arranging collaboration off the forum. This is in and of itself an excellent by-product from the feedback, indicating stakeholder engagement. However in terms of measuring support levels, these comments are not useful given that they do not contain an expression of support or otherwise. Therefore these comments have been excluded from the analysis in order to ensure a clearer picture of support levels.

b) Responses with an opinion on the policy

With 61% of all responses expressing support, 31% giving a mixed message of support or neutral, and just 8% not supporting the policy, these results show a very clear majority of responses in favour of the policy proposals. A more nuanced picture emerges when the supportive comments are broken down into the type of support. A small minority of the supportive comments felt that either the policy did not go far enough or was only to be cautiously supported. The majority of supportive responses either expressed support whilst offering some further commentary or ideas or they simply expressed support without any qualification. With only a minority being cautious or wanting further policy measures, this lends support to confidence that most supportive comments truly are supportive without many reservations.

c) Reponses by unique respondents

Support as measured by individual participants to the feedback was 73% in support, 15% with a mixed message or neutral, and 13% not supporting the policy. Looking at the support levels in this way does slightly polarise the opinions, with both those in support and those not in support gaining numbers from the mixed messages group. This is perhaps a more useful result in that looking only at the responses rather than the unique respondents runs the risk of introducing a response bias where more persons could have 'spammed' the responses with their opinion, although in this case the response bias appears to have been slightly towards more mixed messaging. There is no discernible change however when it comes to the breakdown of supportive comments from individual respondents compared to the breakdown of the supportive comments from all responses. The minority of individual respondents either felt the policy did not go far enough or were only cautiously supportive, whereas the majority

supported the policy with no qualifying comments or offered further comment. Again, this indicates that individual respondents are majority truly supportive of the policy.

d) Comparison of all responses with unique respondents' responses

This is a useful comparison in order to give an indication of any skew in the difference between the two results. There was indeed a shift towards more mixed messaging or neutral responses to the policy when looking at all responses compared to individual respondents' responses, but there was no discernible difference in the level of support within those who were supportive. However, relatively speaking the results are similar. No matter whether the support level for the policy was measured by analysis of all responses irrespective of the author, or as measured by the analysis of aggregated individual respondents' responses, the results both show high levels of support for the policy and low levels of no support.

As a final note, the Bermuda Chamber of Commerce as part of its feedback to the policy conducted a survey of its membership to ascertain support levels for the SUP policy.[8] They found that '78% of respondents supported the ban on SUPs – with some conditions'. Another indicator of the robustness of the feedback received to the forum and to the Ministry.

Thematic Analysis

With the ten main themes that emerged, there is some unavoidable overlap as they are not completely discrete categories. For example, some comments on 'supply and storage' overlap with comments on 'food quality'. Nevertheless they are sufficiently distinct as themes to warrant discussion separately and are useful in providing a framework within which to address the respondents' support and concerns in moving forward with enacting the policy into legislation.

What is interesting to note is that no one theme emerged as being more heavily commented on than any other theme. Seven themes all were weighted within a narrow range of 10% to 16% of comments, and the remaining five were all weighted at 5% or less. This indicates that the issue of legislating SUP has a group of around seven themes that respondents feel are strongly important - major themes, and a group of five themes that are less strongly important - minor themes.

Of these seven major themes, five can be seen to be predominantly solution oriented. Along with two minor themes also being predominantly solution oriented, solution oriented themes and comments thus constitute seven out of eleven themes or around two thirds of all the total. Although this is perhaps not surprising given the majority support for the policy, and it might be expected that the majority of themes would offer support and solutions rather than focus on the issues, it is nonetheless a very encouraging result of the feedback. Solutions to overcome any barriers to success need to come from all segments of stakeholders and not just the government. The remaining five themes that raise problems more than solutions comprise a third of all comments. An examination of the findings based on problems raised and solutions

[8] See Appendix 4 – Chamber of Commerce feedback

offered is useful to determine strategies for lessening resistance whilst at the same time seeking solutions for the issues.

a) Predominantly problem-oriented themes

Looking at the themes that highlight issues or problems that respondents feel need addressing is important so as to understand the resistance coming from those who are opposed to the policy as well as those who may only be cautiously supportive of the policy. Understanding these themes can be utilised to allay potential fears and problems. The next round of consultations are a golden opportunity to allay fears and problems. The major themes that were predominantly problem focussed were 'Economy, tariffs and costs' and 'Supply and storage'. These can be seen as the two main areas of pushback to the policy, and thus it is important in moving forward that these issues are taken into account.

- Major theme: 'Economy, tariffs and costs'

Key words: **economic impact, prices, import duty, jobs, affordable**

Comments made in this theme primarily related to the economic impact of the proposed policy. Respondents noted that Bermuda is already very expensive, and stated that non-plastic alternatives to SUPs are all more expensive and therefore these costs would have to be passed on to the consumer, making them less affordable. Some felt that this may adversely impact smaller businesses. Others mentioned that many businesses, particularly food establishments are already suffering from the effects of the pandemic, and that the timing of the policy was poor given the likely cost increases. Comments suggested that certain products (particularly meat) last longer when packaged in Styrofoam and the shortened shelf life would result in more wastage and thus higher costs again. This would have the knock-on effect of needing to import more, and given the massive recent increase in container prices, again be reflected in higher prices to the consumer. It was commented that jobs may be lost as well as a result of price increases should the businesses have to shoulder any further cost burden and any further job losses would have a negative impact on the economy as a whole. The Chamber of Commerce stated that around half of the 45 businesses that have closed since August 2020 were retail and restaurant establishments, with many others operating reduced hours with the blame laid on the effects of the pandemic. One commentator asked 'Who are you protecting? The people or the environment?'

Other commentators in this theme however noted that the 'cost' of plastic is artificially low and there are many hidden costs with plastic that are passed on to the consumer in other ways through taxes and tariffs including health costs, waste management costs, and environmental costs that are not accounted for when purely looking at the price at the till. Some comments called for the cost focus to be shifted to both the longer term and the wider context than just the price of a container. One comment likened the cost increases of a ban to the increase in costs resulting from the sugar tax, and how the latter has become an 'accepted norm for the probable long term health positives'. One food establishment, Nonna's Kitchen, stated that they had already moved to 'biodegradable and eco-friendly compostable containers', paper bags, corn utensils and allowing customers to bring their own containers which actually saves the consumer money, not costs them more. They also charged for bags and the money was donated to the Bermuda National Trust to plant trees on their behalf. A number of other

comments focused on some solutions to the cost issue through altering import tariffs for non-plastic alternatives to SUP and / or raising import duties for SUPs.

- Major theme: 'Supply and storage'

Key words: **supply chain, alternatives, leverage, stockpile, bulk purchasing, exemptions**

This major theme concerned the peculiar nature of Bermuda as an island that needs to import virtually everything from abroad, particularly food items. Commentators noted that this reliance on outside manufacturers and suppliers meant that we are powerless or have little influence over the suppliers and how they package their products. As one comment stated 'we are only able to sell what we can access'. Another stated that a proposed ban on SUPs 'would have a dire impact on a huge array of products imported to the island without many options for replacement', particularly popular beverage items. This concerned some commentators in that a ban on items for which there are seemingly no alternatives available would lead to less consumer choice and possibly shortages of some goods. Comments also noted that the global supply chain is already disrupted and that Bermuda is already suffering with accessibility to some products, and that a ban on SUPs would only further exacerbate supply problems. Others noted that the issue of exemptions to the bans would need careful thought as there are certain sectors of the population such as disabled persons and certain sectors of business such as healthcare that need SUP products and a disruption of supply of some of the SUPs they use would have an adverse effect on the provision of healthcare and for disabled persons. Some comments in this theme noted that plastic packaging is light and can be stored easily and in less space whereas some alternatives such as glass are heavy, breakable and require much more warehouse space. Comments also alluded to potential problems of importers either deliberately stockpiling SUPs to evade an import ban or having wastage of existing stockpiles when prohibited to use SUPs. There was an indication that stockpiling has occurred as a result of supply problems and the increased cost of shipping, with a majority of respondents to the Chamber of Commerce survey indicating the proposed timelines were insufficient to use up their supplies, with many having up to 9 month's supply already stockpiled.

The comments that offered some solutions to these issues included: a proposal to have Chamber of Commerce or other bodies come together to negotiate a better purchasing power through bulk buying for the island; countering the claim that alternatives do not exist; and excluding in any ban items that have no alternative available.

- Minor theme: 'Health and safety'

Key words: **COVID-19, injury, health outcomes**

Although this was a minor theme, there were nonetheless a number of comments raising the issue of the safety aspects of plastic when it came to COVID-19 and disposable packaging reducing the risk of contamination, and plastic packaging being sanitary in general. Other comments noted the health and safety issues of glass breakage on beaches and around pools (affecting the hotel industry). The role of plastic packaged goods (such as water bottles) in the aftermath of recovering from the effects of natural disasters such as hurricanes was also highlighted.

Conversely, some comments noted that whilst there are perceived short-term health benefits from food packaged in plastic, there are longer term health issues precisely because food is in plastic - the effects of which are not fully understood given the ongoing but mounting evidence of the harm from microplastics in water, air and food.

- Minor theme: 'Food quality'

Key words: **waste, durability, perishability, shrinkage**

This minor theme had overlap with other themes particularly because it was seen by many respondents that food quality issues are synonymous with cost issues, but is nonetheless an issue that warrants some mention as a separate theme. As noted already, comments suggested that foods packed in plastic packaging tend to have a longer shelf life and therefore this leads to less waste – known as shrinkage in the grocery trade – for a number of produce items due to increased shelf life and this may affect both customer choice and customer satisfaction. Comments also noted that some items cannot be transported or sold loosely and plastic packaging help protect the quality of the food better than other packaging. Other respondents noted that because plastic packaging is more durable, does not break, and is easily stored – this again affects food quality positively.

b) Predominantly solution oriented themes

- Major theme: 'Point-of-sale'

Key words: utensils, returnable containers, surcharge /discount, deposit, recycling station, no packaging

Perhaps not surprisingly given the majority support for the policy and the numbers of supporters also offering other ideas, the theme that emerged with the largest number of comments was 'point-of-sale'. This theme concerns suggestions regarding the point-of-sale interactions between businesses and customers. The suggestions appear to be intended to assist businesses so that the legislation does not have a negative impact on the business whilst also ensuring the businesses are going further in implementing different business models that are workable in Bermuda and that are environmentally beneficial. These suggestions include:

- Bringing your own containers to grocery stores, take-away establishments and the like
- Businesses surcharging customers who do not bring their own containers, and/or offering discounts to those who do. In some businesses this is already happening. Customers who bring their own coffee mug to Rock Island Coffee Shop receive a discount, and customers who bring their own bags to Market Place receive a discount on their bill
- Re-introducing deposit schemes for certain packaging such a bottles
- Introducing a system of borrowing containers from businesses
- Introducing an Indian tiffin style delivery and collection service
- Charging for bags
- Ensuring take-away establishments automatically ask if the customer needs utensils, napkins and so on

In particular, the feedback document from Beyond Plastic was replete with different ideas of how to overcome any problems arising from bans of SUPs.[9]

- Major theme: 'Sustainability of change'

Key words: environment, composting, biodegradable, equity, sustainability, inclusivity

In this theme, commentators stressed the need for ensuring that changes were both sustainable and did not have negative unintended consequences of also being harmful to the environment due to production or shipping requiring more energy for example. Of particular concern to a number of responders was the issue of replacement items for SUPs. Respondents noted that there are a number of SUP replacement products that are labelled 'biodegradable' and 'compostable'. However, despite the labelling many of these products are not compostable in the home environment, but rather they need to be composted industrially and Bermuda does not have nor is likely to have such a facility in the near future. There were some comments that referred to if bans on SUPs lead to higher prices those who were already suffering financially would suffer even further. It was felt that equity and sustainability should be ensured as the bans were introduced.

- Major theme: 'Public Education'

Key words: public campaigns, behaviour change, long term benefit

This theme garnered much comment in that respondents, whether supportive of the ban or not, felt that public education was a vital component of the policy. The respondents noted how the shift away from SUPs would require behavioural change and this needed to be reinforced through public messaging given the historical shift from 'grandparents who practiced sustainability on a daily basis' to today's ethos of convenience without due regard to the consequences. Highlighting the health risks of plastic along with offering solutions to help with the transition was seen as important, along with emphasising the need to reduce our reliance on SUPs where we can.

- Major theme: 'Practical steps'

Key words: collaboration, phases, zero waste, circular economy, sugar tax

A number of responders compared the potential introduction of legislation on SUPs to the introduction of the sugar tax which was not viewed favourably. Complaints included that with the sugar tax there had not been enough consultation and that there had been surprises at the scope of the tariff changes of which businesses were not aware. Many respondents sought assurances that there would be further consultation as the SUP legislation moved forward, and importantly that there be no last-minute surprises that would harm businesses if they had not had sufficient time to prepare for them. As was noted earlier, around a quarter of the responses on the forum did not express an opinion on the policy but were largely encouraging collaboration and information gathering and sharing. This is a positive move and the tenor of many remarks reflected the wish that this continue as the move to enacting legislation continued. Businesses in particular were keen to stress that they required clear and direct information. Comments were made that items should not be banned unless alternatives were actually available, and that a slower approach to the phases would be preferable, giving

[9] See Appendix 5 – Beyond Plastic feedback

businesses time to adapt both their practices as well as sourcing new suppliers and products. Additionally, some responses noted that Bermuda could do well to introduce an extended producer responsibility scheme (EPR) whereby importers and retailers, for example, are required to take ownership and responsibility for the management of the plastic waste they import – through schemes such as take-back requirements, advance disposal and recycling fees, and deposit-refund schemes.

- Major theme: 'Waste management'

Key words: mandatory recycling, litter, repurposing, recycling, export

The issue of waste management was a theme that was often mentioned. Many comments were made on the need to improve waste management – either because it was felt it was not currently very good or as a 'solution' to litter issues. In particular there were a number of comments on the issue of recycling in Bermuda. It would appear that there is a desire for more public information on the recycling programmes in Bermuda for consumers to understand the importance of it. Additionally, there were a number of calls for implementing mandatory recycling as is done in a number of other jurisdictions. Beyond Plastic called for the government to develop a National Waste Management plan. Other solutions that respondents made included: installing more CCTVs; allowing the export of glass and aluminium for proper recycling rather than re-use or down-cycling; and extending the recycling programmes in Bermuda to include plastic repurposing thereby encouraging local entrepreneurship. There were a couple of comments that stated that the type of packaging used in Bermuda essentially did not matter as it would end up being burned at Tynes Bay generating electricity anyway.

- Minor theme: 'Promotion and Positioning'

Key words: government leadership, public authorities, tourism

This theme was slightly different from the 'public education' theme as it focussed more on the beneficial outcomes of eliminating SUPs in Bermuda in terms of showing Bermuda as 'leading the way' or at least not lagging behind. Some respondents noted that in terms of reviving the tourism industry, sustainable tourism is growing and that this places Bermuda in a desirable position in marketing terms. At the same time, respondents noted that government itself should be leading the way on the SUP initiatives by starting with banning SUPs from parks and beaches, schools, prisons, and also not allow them to be removed from cruise ships that are in port.

- Minor theme: 'Other comments'

Key words: helium balloons, microbeads

There were a few one-off comments that could not readily fit into any of the above themes, but they are nonetheless worthy of note. Included in here are comments made regarding alternatives to the policy. This included a suggestion to make the bans voluntary and to use targets for reduction that are not necessarily mandated by legislation. Also a number of respondents called for an enhanced scope to the proposed policy to ban all helium balloons and to ban all products with plastic microbeads that are usually found in beauty products like face scrubs.

Conclusions

Study validity

Response: The response to the policy paper was good. Using the figures on the Bermuda Government Forum page from the past three years, the SUP policy paper ranks fifth in terms of participants and third in terms of ideas generated.

Internal validity: The feedback from the forum can be seen to have reasonable internal validity. Internal validity encompasses both confidence level that the responses to what is being asked are trustworthy despite some selection bias due to respondents being self-selected and also response bias due to possible barriers to accessibility of the on-line forum.

External validity: The feedback has good external validity. External validity is expressed in terms of being able to generalise the responses to the wider population. Although persons aged 35 and over were somewhat over-represented in terms of participation in the feedback, with persons under 35 being somewhat under-represented, the spread generally correlated with the age of the population. Additionally, respondents' place of residence was well correlated with the location of Bermuda's resident population by parish.

Therefore analysis of the feedback can be taken as likely representative of the bigger picture in Bermuda as a whole.

Support level for the policy

No matter whether the support level for the policy was measured by all individual comments made including multiple comments from different participants, or measured by the individual respondents aggregating multiple comments from one participant, the results both show similarly high levels of support for the policy and low levels of no support. Within the supportive comments, further analysis shows that the majority of supportive comments come without any reservations or qualifications and thus are truly supportive of the policy proposals. The support levels from the government consultation also matched the levels found from a separate feedback exercise conducted by the Chamber of Commerce.

Thus it can be concluded that an overwhelming majority, around three-quarters of all respondents, support the policy proposals to different degrees and only a small minority, some one quarter either have mixed feelings or do not support the policy at all.

Thematic Analysis

The thematic analysis gives a very clear idea as to where the challenges lie in successfully moving the policy to legislation as well as offering solutions to help make the transition away from SUPs.

The main concerns were expressed as the potentially negative impacts through:

- Higher costs for businesses and higher prices for consumers
- Disruption of the supply of some goods and foodstuffs to Bermuda

- Problems sourcing alternative suppliers
- A decrease in food quality
- Potential health and safety implications

The main solutions offered for overcoming potential negative impacts were:

- Public education campaigns to support behavioural change
- Ensuring a focus on both the hidden costs of SUPs in taxes and other public burdens
- Emphasising the health issues and long-term impact of microplastics
- Encouraging collective bulk buying amongst Bermuda's businesses
- Excluding SUP items that have no alternative available currently
- Altering point-of-sale methods and practices to move to more loose produce, allowing returnable containers, having discount schemes, and introducing deposit schemes
- Re thinking current delivery service and commencing collection and reusable services
- Ensuring all SUP alternatives are home biodegradable and compostable
- Altering import tariffs to alleviate price increases by increasing duty rates on plastic items that are not immediately subject to a ban, and decrease the duty rates on non-plastic, home-compostable, fully biodegradable alternatives
- Introducing EPR schemes
- Continued collaboration with consumers, businesses and interest groups
- Reviewing current waste management in Bermuda and create a National Waste Management Plan
- Introduce mandatory recycling and improve the current recycling system
- Introduce immediate bans on certain SUPs in parks, beaches, schools and other public places and institutions
- Ensure the phase-out periods are longer and clearly communicated

Additionally the following recommendations arise from the analysis of the feedback;

- Educate on the positive examples already being carried out in Bermuda such as the 'bring your own' schemes at Market Place and Rock Island Coffee as well as completing the move to non-SUP products entirely as by Nonna's Kitchen
- Include helium balloons and microbead products in legislative bans
- Immediately ban items that have readily available replacements – straws, plates, cutlery, bags, Styrofoam products, cotton buds with plastic stems, oxo-degradable plastics, and plastics that cannot be home composted
- Maintain an ambitious target for eliminating SUPs even the seemingly very difficult SUPs such as plastic water bottles but allow a longer period for this
- Ensure there are exemptions for certain classes of SUPs that do not have alternatives currently available and that are required for health and safety reasons but that these are reviewed regularly
- Create a multi-sector advisory body consisting of business representatives, environmental groups and government representatives to provide oversight to the elimination of SUPs in Bermuda

Moving away from the current heavy reliance on single-use plastics will not be an easy task, but it is one that can be successfully tackled with sufficient collaboration, public education and leadership.

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Appendix 1 – Policy Paper for Public Consultation: SUP Policy Recommendations

The recommendations from the policy paper are:

1) Public information campaigns on SUPs be conducted as soon as practically possible in 2021, continuing through the proposed phases of legislative changes as outlined below.

2) Public consultations be held in 2021 to review the proposed bans and to prepare the discussions for further bans.

3) A SUPs procurement policy be implemented for all departments of the Bermuda Government before the end of 2021 and ahead of legislative bans.

4) Legislation to prohibit the importation of specific SUPs be enacted by early 2022: Phase One.

5) Legislation to ensure that non-plastic alternative products (to plastic products subject to any ban) are fully biodegradable be enacted by the first half of 2022.

6) Legislation to prohibit the sale, distribution, and use of the banned SUPs be enacted by the end of 2022: Phase Two

7) Legislation be enacted to ban the release of helium-filled balloons outdoors.

8) Planned charges or fees on the use of SUPs to be scrapped in favour of the above bans.

9) Public consultations be re-commenced in 2022, or after one year from the first importation ban, to assess the effect of the bans and to consult on the next round of plastic items to be banned.

10) Public education campaigns on the dangers of SUPs be continued throughout 2022.

11) Legislation to prohibit the importation, sale, distribution, and use of further banned SUPs be enacted by the end of 2025: Phase Three

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Appendix 2 – Public Consultation Timeline

9 November 2018	The Bermuda Government Speech from the Throne states that "… single-use plastics will be eliminated by 2022, and the intervening years will be spent educating the community about recycling and re-usable items and encouraging greater sensitivity to the ocean and its importance in our lives"
Early 2021	"Regulating Single-use plastics in Bermuda: A policy paper for discussion" submitted to Cabinet
August 2021	Cabinet approve the policy paper and authorise publication
26 August 2021	Minister of Home Affairs holds press conference to announce the policy paper
1 September 2021	Public consultation period begins on government portal
September 2021	Office of Project Management and Procurement (OPMP) begins single-use plastic (SUP) procurement policy consultation and survey
15 September 2021	Bermuda National Trust public talk with Ministry of Home Affairs (MOHA) and Ministry of Public Works (MPW) representatives
23 September 2021	Minister of Home Affairs interviewed on Magic FM
27 September 2021	Beyond Plastic (BP) / Keep Bermuda Beautiful (KBB) public talk with MOHA and MPW representatives
6 & 7 October 2021	Chamber of Commerce public talks with MOHA and MPW representatives
31 October 2021	Public Consultation period ends on government portal
16 November 2021	KBB public talk with MOHA and MPW representatives
8 December 2021	OPMP release some of the SUP Procurement Policy Survey results
December 2021	Analysis of public consultations begins
January 2022	Analysis of public consultations completed

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Appendix 3 - Data

Raw Data

Chart 1 - Age

Age of respondents	Number of Respondents	Percentage of population (approx.)
16-24	4	11
25-34	3	18
35-54	16	24
55-64	10	16
65-74	9	17
Total	42	

Chart 2 – Residence

Parish of respondent's residence	Number of respondents	Parish density ('000s) per square mile
St. George	5	3.084
Hamilton Parish	2	2.751
Smith's	4	3.149
Devonshire	4	3.710
Pembroke	8	5.314
Paget	5	2.906
Warwick	4	4.092
Southampton	5	2.721
Sandys	5	3.104
Total	42	

Individual respondents	57 (54 on the portal, 4 directly to the Ministry, with one making submissions to both)
Total comments made	133 (129 on forum, 4 directly to the Ministry)
Individual topics	53 on forum

Public presentations

Bermuda National Trust	15 September 2021	15 registered participants
Beyond Plastic / Keep Bermuda Beautiful	27 September 2021	126 registered participants
Chamber of Commerce 1 of 2	6 October 2021	34 registered participants
Chamber of Commerce 2 of 2	7 October 2021	50 registered participants
Keep Bermuda Beautiful	16 November 2021	20 registered participants
Total		245 registered participants

Analysed Data

Chart 3 - Responses to proposed policy with and without opinions

Supportive	47%	62
Mixed or neutral	23%	31
Not supportive	6%	8
No comment on actual policy	23%	31
	99%	132

Chart 4 – Responses with opinion to proposed policy

Supportive	61%	62
Mixed or Neutral	31%	31
Not supportive	8%	8
Total	100%	101

Chart 5 – Supportive responses vs all other responses

Supportive	61%	62
Mixed or Neutral / Not supportive	39%	39
	100%	101

No chart – All responses to proposed policy

Supportive - doesn't go far enough	5%	6
Supportive - no other comment	14%	19
Supportive - offered other ideas	21%	28
Supportive - but cautious	7%	9
Mixed or neutral	23%	31
Not supportive	6%	8
No comment on actual policy	24%	31
Total	100%	132

Chart 6 – All responses excluding those without expressed opinion

Supportive - doesn't go far enough	6%	6
Supportive - no other comment	19%	19
Supportive - offered other ideas	28%	28
Supportive - but cautious	9%	9
Mixed or neutral	31%	31
Not supportive	8%	8
Total	100%	101

Chart 7 – Unique respondents' support levels

Supportive	73%	40
Mixed or Neutral	15%	8
Not supportive	13%	7
	100%	55

Chart 8 - Unique respondents' support levels

Supportive - doesn't go far enough	11%	6
Supportive - no other comment	19%	11
Supportive - offered other ideas	30%	17
Supportive - but cautious	11%	6
Mixed or neutral	14%	8
Not supportive	12%	7
No comment on actual policy	4%	2
Total	100%	57

Chart 9 – Comparison of unique respondents with all responses

	% of unique respondents	% of all respondents
Supportive	73%	61%
Mixed or Neutral	14%	31%
Not supportive	13%	8%
	100%	100%

Chart 10 – Comparison of unique respondents with all responses

	Unique respondents	All responses	
Supportive - doesn't go far enough	11%	5%	6
Supportive - no other comment	19%	14%	11
Supportive - offered other ideas	30%	21%	17
Supportive - but cautious	11%	7%	6
Mixed or neutral	14%	23%	8
Not supportive	12%	6%	7
No comment on actual policy	4%	24%	2
Total	100%	100%	57

Themes

Bring own container / surcharge if not / discount if do / recycle	17	a = point-of-sale / containers	45
Have deposit scheme for returnable containers or borrowed container system	9	a = point-of-sale / containers	45
Need more recycling stations / places to return good for re-use	4	a = point-of-sale / containers	45
Should ask if utensils are required or not	5	a = point-of-sale / containers	45
Encourage selling products loose	3	a = point-of-sale / containers	45
Implement a charge for bags	2	a = point-of-sale / containers	45
Need more water stations	5	a = point-of-sale / containers	45
Economic impact / jobs / cost / prices	19	b = Economy , tariffs, costs	39
Need affordable alternatives	2	b = Economy , tariffs, costs	39
Alter tariffs on imports	11	b = Economy , tariffs, costs	39
Need exemptions / disabilities / need to be clear exemptions	7	b = Economy , tariffs, costs	39
Supply chain issues / no leverage / access issues	14	g = supply and storage issues	35
No alternative to some items like water bottles - delay	9	g = supply and storage issues	35
Suppliers only supply plastic	4	g = supply and storage issues	35
Imports only come in Styrofoam / plastic	3	g = supply and storage issues	35
Storage issues with non-SUP items /stockpiling issues	3	g = supply and storage issues	35

Try bulk purchasing as an island through Chamber of Commerce / co-operative buying etc	2	g = supply and storage issues	35
Encourage zero waste programmes / circular economy	6	h = sustainability of change	33
Extended producer responsibility	4	h = sustainability of change	33
Alternatives must also be better for the environment	11	h = sustainability of change	33
Non-industrial composting / biodegradable necessary / home composting	7	h = sustainability of change	33
Sustainability / inclusivity / equitability	5	h = sustainability of change	33
Hold public education campaigns	11	e = education	31
Need behaviour change	6	e = education	31
We need do to our part	3	e = education	31
Focus on long term benefits incl health	3	e = education	31
Focus on reduction	8	e = education	31
Find workable solutions / wide collaboration	16	f = practical steps	31
Phase this in / clear list of items / don't surprise us /	10	f = practical steps	31
Problems with sugar tax	3	f = practical steps	31
Ban only when a replacement is available	2	f = practical steps	31
Waste management needs addressing / improving / cctv / litter issues	12	d = waste management	28
Make recycling mandatory / sort-at-source / recycling bins	8	d = waste management	28
Recycle more glass / allow it to go to USA	5	d = waste management	28
Repurpose and reuse the plastic locally	2	d = waste management	28
Burn instead	1	d = waste management	28
Bermuda lags behind / needs to be a leader	6	j = promotion and positioning	14
No SUP to be allowed in schools, parks, beaches, off cruise ships	3	j = promotion and positioning	14
Govt should lead the way in schools and prisons w education and bans	3	j = promotion and positioning	14
Promote Bermuda as a sustainable tourist destination	2	j = promotion and positioning	14
Health and safety issues / broken glass / COVID spread	8	c = health and safety	9
Update health policies	1	c = health and safety	9

Increased waste / quality decrease in perishables	6	I = packaging issues waste and durability	9
Eco packaging is not durable	3	I = packaging issues waste and durability	9
Ban all helium balloons	4	o = other ideas	7
No microbeads	2	o = other ideas	7
Make scheme voluntary / have targets for reduction	1	o = other ideas	7

Legend: Letters refer to original coding in spreadsheet

Appendix 4 – Chamber of Commerce feedback

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BERMUDA CHAMBER OF COMMERCE

Response to Ban on Single Use Plastics
Submitted by
The Bermuda Chamber of Commerce
October 31, 2021

In response to the Bermuda Government's published policy paper titled 'Regulating Single-Use Plastics in Bermuda,' The Bermuda Chamber of Commerce (BCC) undertook a survey of its membership to ascertain the potential impact of this policy. The survey included both qualitative and quantitative responses. In addition to the survey the divisions were asked to respond to the impact on their industry specifically and their business personally. To ensure the membership was fully apprised of the planned changes BCC circulated the policy paper to the members and hosted two sessions whereby representatives of the Ministries of Public Works and Home Affairs could answer any questions relating to the policy paper. The second session featured members of Beyond Plastics, an interest group that supports the banning of plastics in Bermuda.

The Bermuda Chamber of Commerce is a membership organisation representing the collective commercial interests of its members. The membership is comprised of approximately 500 member businesses representing a wide range of industries including, but not limited to restaurants, retail, tourism, international business, real estate and not for profits.

In response to the question of regulating the use of Single-Use Plastics (SUPs) the membership survey revealed the following data:

- 78% of respondents supported the ban on SUPs – with some conditions
- The impact on businesses will be mostly in terms of cost and convenience
- 66% of respondents noted that substitutes were not readily available
- 78% said that the substitutes were not priced favourably

In drilling down beyond the numerical data respondents noted the challenges with finding / sourcing reliable alternatives. Many cited global supply chain challenges, finding and establishing new relationships with suppliers is and will be difficult in this environment. Bermuda is a small player. Secondly, the skyrocketing costs of shipping have prompted some suppliers and users of SUP to stockpile larger than normal supplies of SUP to deal with the surge in demand due to Covid-19 related protocols.

- 22% said they had between 6–9 month's supply on hand (retail and restaurant industry)
- 56% of respondents noted that the government's proposed timeline to use up supply was insufficient

The impact of Covid-19 has been profound, increased costs have strained local businesses to breaking point. In a recent BCC foot survey* 45 businesses have closed permanently, 46% of those have been retail and restaurant establishments. Many have reduced hours and services. The most evident impact is felt by the restaurant industry and its suppliers. The sudden changes switching from dine-in to take

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out and curb side have required a huge increase in the demand for SUPs. In addition, local suppliers have seen pricing of some food stuff increase by 400% and shipping costs increases from $7,000 per container to over $20, 000 per container**. These costs have been mostly bourn by the businesses with some costs being passed on to the consumer. Locally, consumers have railed against price increases in their basket of goods. Maj's List is full of posts complaining of price gouging, instability and unreliability of products available on island.

Since the release of the policy paper, BCC asked respondents if they were clear on the items that were proposed in the ban. The response was as follows:

- 58% of respondents were unclear as to what items were included on the government's proposal.

When asked which products should not be included in the ban, the following items were listed:

- Pet waste bags
- Grocery bags – reused as garbage bags/ recycling bags
- Fresh meat trays in the butcher shop
- Anything that is not easily replaced or substituted (most common response)

It was suggested that alternatives be identified before a wholesale ban was implemented. Others suggested that Bermuda's policy changes follow a major market like the USA or Canada to ensure sourcing of alternatives would be cost effective and readily available.

So, although the majority of businesses support the regulation of SUPs, even more note that the timing of this is another weight / cost business cannot afford to bear right now.

In conclusion, the members of BCC suggest that the Government consider the following actions:

- Use a longer phased approach rather than an outright ban
- Consider following a major market such as USA or Canada to ensure that supplies are readily available and cost effective
- Allow present stocks to be used up entirely – imports maybe restricted in the future
- Clearly identify what is and what is not included in the ban, noting that importers of some products have little to no choice in the matter for some products
- Enable businesses to recover from Covid-19 impacts before effecting any wholesale changes or bans

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BERMUDA CHAMBER OF COMMERCE

NOTES:

*Bermuda Chamber of Commerce foot survey. Conducted three times between August 2020 and August 2021

** Importer/ wholesaler presentations at a Supply Chain and Sustainability Taskforce meeting October 2021

The BCC survey on Single Use Plastics was conducted between October 15th - 23rd 2021, with 381 members starting the survey and 81 completing the full survey. The only divisions not represented in the survey were the Bermuda Automobile Dealers Association (BADA) and the Security division. Anecdotal information was gathered at divisional meetings with SUP on the agenda as a discussion item. Additional information was gathered through various emails sent to the Chamber and conversations with the CEO and board members and supplied to the CEO.

Questions on the survey or other information contained in this document may be addressed to Kendaree Burgess, CEO Bermuda Chamber of Commerce.

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Appendix 5 – Beyond Plastic feedback

BEYOND PLASTIC BERMUDA

Response to the Government of Bermuda On Regulating Single Use Plastics: January 2022

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Appendix **33**

Opening statement

Beyond Plastic Bermuda (BPB) applauds the Government's commitment to eliminate single- use plastics (SUPs) in Bermuda beginning in 2022. We are pleased that the Government shares the concerns of the community over the harmful effects of plastic to the environment, the climate, and our health.

Beyond Plastic Bermuda is a newly formed collaborative group of Bermuda's registered environmental charities comprised of Bermuda Environmental Sustainability Taskforce (BEST), Keep Bermuda Beautiful (KBB), Greenrock as well as other environmental advocates. BPB's primary goals are to support the Government's recently announced 2022 bari on SUPs, and to act as agents for change in the community by educating the public aboutthe perils of plastic pollution.

Our four goals:

1) To educate the public about the environmental and human health impacts of SUPs.
2) To offer guidance regarding safe alternatives to SUP products.
3) To encourage and support the Government's legislation and policies to reduce and eliminate single use plastics where possible.
4) To encourage and support the public to reduce and or eliminate individual consumption of SUPs where possible.

Beyond Plastic Bermuda looks forward to working with the Government and the communityto achieve these goals.

Signed,

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Erich Hetzel, *Bermuda* ***EnvironmefEl:W!M!IIPI'*** *nability Taskforce*

Introduction

Single-use consumer products and packaging are being purchased at an ever-growing rate due to their convenience and affordability. Single-Use Plastics (SUPs) comprises a large amount of those products and packaging. In Bermuda, our waste production is driving a waste crisis on our beaches and roads, pest infestations and issues in domestic waste management. SUPs are also potentially a factor in the declining health of Bermuda's citizens.In humans, plastics have been shown to be linked with severe adverse health outcomes such as cancers, diabetes, birth defects, impaired immunity, endocrine disruption, developmental and reproductive effects. [1] [2] [3] According to the Bermuda Environmental Statistics Compendium, levels of nitrogen dioxide, sulphur dioxide and particulates generated from theincineration of household waste at Tynes Bay Waste-to-Energy Facility are increasing yearlyand teetering on health-safety limits.[4] Reported diseases related to environmental conditions in Bermuda increased by 3.9 per cent from 2018 to 2019. Poor recycling is impacting the ageing Tynes Bay Waste-to-Energy Facility, with maintenance costs related to boiler leak repairs averaging $22,000 in 2018 and 2019 but soaring to $94,000 in 2020.[5] The final resort of dumping garbage back in a local landfill has recently begun. SUPs account for half of the plastic produced every year. Many of these products, such as plastic food wrappers and bags,have a use-lifespan of mere minutes to hours, yet they remain in the environment for hundreds of years.[6] Reducing the amount of SUPs used in Bermuda will decrease both our exposure to plastics and our waste problem.

Bermuda's escalating waste crisis stems from our dated approach to waste management and our society's entrenched consumption habits on both the commercial and consumer level. Although making an impact on a global scale may seem futile, there are tangible solutions inworking towards a more sustainable future and improving how we consume and dispose of

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1 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3299092/#:~:text=Exposure%20to%20harmful%20chemicals%20during,endocrine%20disruption%2C%20developmental%20and%20reproductive

[2] https://www.ciel.org/wp-content/uploads/2019/02/Plastic-and-Health-The-Hidden-Costs-of-a-Plastic-Planet-February-2019.pdf

[3] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3862078/

[4] https://www.royalgazette.com/environment/news/article/20210129/tynes-bay-incinerator-pollution-increases/

[5] https://www.royalgazette.com/politics/news/article/20211110/bermuda-in-desperate-need-of-replacement-incinerator/

[6] https://www.nationalgeographic.com/environment/article/plastic-pollution

wasteful materials. Other Caribbean jurisdictions have already taken significant steps in reducing SUP usage[7]. Combining innovative approaches to sustainable business and wastemanagement, with fair legislation and policy, BPB aims to help foster a more circular, sustainable society.

Chapter 1: Innovation

Moving toward a zero-waste and re-use economy is at the forefront of BPB's mission to aid in phasing out SUPs. Recycling was originally proposed as the solution to the world's plastics litter problems. We now know that only 9% of the world's plastic has ever been recycled and recycling is not the solution[8]. The popular phrase 'reduce and reuse' rings clearnow, especially regarding plastic. In the hierarchy of the circular economy (Rethink, Redesign, Reuse, Repair, Remanufacturing, Recycling, Recover) a change from material recycling to product reuse is considered positive as more value is retained. As defined by theEllen MacArthur Foundation, a circular economy is based on three principles, driven by design to eliminate waste and pollution; circulate products at their highest value; and regenerate nature.[9] In this section, we propose various innovative ways in which Bermuda could re-orient its business models with innovative sustainability methods and policy.

1.1 Plastic Product Alternatives

Many bioplastic products exist on the market, labelled as 'biobased,' 'biodegradable', and/or 'compostable'. Bioplastics, according to the Society of the Plastics Industry (SPI) BioplasticsCouncil, are defined as a plastic that is biodegradable, has bio-based content, or both. This unclear terminology continues to cause confusion for stakeholders. This is because bioplastics are made from plant-based materials but may have similar properties as ordinary plastic. Further, most forms of biodegradable plastic are only compostable in an industrial facility where temperatures of up to 65 degrees Celsius (165 degrees Fahrenheit) are used.
Thus, the elimination of plastic in Bermuda should extend to any bioplastics that may containfossil fuel properties. Therefore, alternative products entering Bermuda must be certified

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[7] REPORT ON THE STATUS OF STYROFOAM AND PLASTIC BAG BANS IN THE WIDER CARIBBEAN REGION, 2019

United Nations Environment Programme
http://gefcrew.org/carrcu/18IGM/4LBSCOP/Info-Docs/WG.39_INF.8-en.pdf

[8] https://www.unep.org/interactive/beat-plastic-pollution/

[9] https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview

'home compostable'. Compliance of the importation of strictly home compostable productsmust be regulated.

1.1.1 Compostable bioplastic: understanding labelling and getting it right

Home compostable products and materials are designed to break down and compost in a home compost environment, at ambient temperatures and with a natural microbial community. One of the newest and yet most common home compostable bioplastics is calledPHA (polyhydroxyalkanoates) and is made from a canola-oil base. When combined with other home compostable components, PHA retains the technical characteristics of petroleum-based plastics, while able to compost at the end of its life.

The emphasis on home compostability clarifies the difference from industrially (commercially) compostable products, which can only biodegrade in an industrial composting facility. Bermuda does not have an industrial compost facility. Even in the US, there are much fewer composting facilities than there are landfills or recycling plants, with the country having a mere 185 full-time commercial composting facilities. A product that is industrially or commercially compostable is certified by *ASTM D6400*, *ASTM D6868*, *BPI*, *EN 13432* (European equivalent), and *TUV Industrial* (Austrian) Industrial logos. These products tend to have 'greenwashed' packaging[10] and should be avoided. Currently, ASTM does not provide a test standard for home compost, and BPI has not evolved to include homecompostables in their certification schemes.

Home compostable tests follow various standards around the world, including the Australianstandard called *AS 5810*. This standard requires disintegration in 6 months, and biodegradation and compost formation in a year. *NFT 51800* from France and *prEN 17427* follow a similar standard. TUV Austria, the leading bioplastics certification body, provides their *OK compost HOME* certification. Currently, there is no equivalent certification to OK compost HOME in the US, as BPI solely certifies for industrial compost. Therefore, when evaluating a compostable product choice, OK compost HOME is the best possible certification to look for.[11]

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[10] Greenwashing means having the appearance of being environmentally friendly, while in fact not being so.

[11] https://www.urthpact.com/certified-compostable-products-what-to-look-for-and-what-it-means/

1.2 Reusable container schemes

Conscious consumers around the world are participating in reusable container schemes that substitute SUPs with sturdy, washable takeout boxes for takeout food wrapping and transport.Zero-waste schemes have been successful in partnering with restaurants in various cities, using subscription programmes through smartphone apps that facilitate ease and convenience for the customer. These schemes help build a local circular economy for reusable packaging, connecting sustainably-minded food vendors and conscious customers around a shared asset
- reusable containers and cups. Reusable container schemes require dynamic partnership from many diverse stakeholders and can provide opportunities for circular economy marketgrowth, business development, and/or casual labour programmes.

Recommendation:

A basic subscription-based reusable container scheme:

1) Members request a reusable box at any participating restaurant.
2) Check out the reusable boxes at restaurant website or using an online app
3) After eating, rinse and return those boxes to several convenient collection points across the island.
4) Washing the reusable containers can be subsidised or become an opportunity for casual labour schemes. Commercial-scale washing facilities are required, along withair drying to ensure longevity of containers. Sharing commercial facilities during offhours may make this more attractive.

Examples of businesses with reusable container schemes:

- GreenToGo (Durham, NC)[12]
- Go Box (Portland, OR)[13]
- Caulibox (London, UK)[14]
- Deliverzero (New York, NY)[15]

[12] https://durhamgreentogo.com

[13] https://goboxpdx.com

[14] https://www.wearecauli.com

[15] https://instore.deliverzero.com

- Dabbbawala or Tiffin system (India)[16] [17]
- Dabbadrop (London, UK)[18]
- Just Salad (USA)[19]

These programmes use durable, dishwasher-safe food and drink containers which are made from polypropylene and which does not contain BPA. Polypropylene is fairly heat resistant and considered a 'relatively safe' plastic material, especially compared to plastics that use BPA, which is toxic.[20] The Tiffin scheme, popular in India and in plastic-conscious Indian restaurants around the world, uses tiered steel containers to keep food hot and prevent plasticleaching into food.

Such a reusable scheme could also be utilised by supermarkets for meat and cheese sales.

1.3 Sustainable Waste Management

Bermuda's waste management system is outdated considering the great amount of trash Bermudians produce. While 2.24 kg of waste is generated per capita per day in the USA, and 1.94 in Canada, Bermuda leads with a reported 4.54 kg.[21] Beyond Plastic believes Bermuda should adopt a widespread 'sort at source' method. Moreover, this section emphasises the need for increased investment into the Waste Management sector, including trash truck modernisation, and the improvement of recycling and composting services necessary to meetBermuda's waste production needs this century.

1.3.1 Improve recycling

Bermuda recycles only approximately 20% of its total recyclable trash (Tin, Aluminium and Glass). A plastic ban will greatly increase usage in cans and glass, therefore more investmentinto Bermuda's recycling programme is necessary to complement the elimination of SUPs.
Our understanding is that the Material Recovery Facility can handle at least ten times[22] the

[16] https://www.theguardian.com/lifeandstyle/2014/aug/17/tiffin-the-history-of-indias-lunch-in-a-box-mumbai

[17] https://www.babaskitchen.com.au

[18] https://dabbadrop.co.uk

[19] https://www.justsalad.com

[20] https://www.healthline.com/health/is-polypropylene-safe#is-it-bpa-free

[21] Silpa Kaza et al., *What a Waste 2.0* (Washington, DC: World Bank Group, 2018), 66.

[22] Personal Communication Waste Management Section of the Bermuda Government Ministry of Public Works 2021

amount of waste it processes at present.[23] Moreover, improperly recycled metals and large plastic items cause costly damage to Tynes Bay Waste-to-Energy Facility. Many of us may think the responsibility for sorting waste belongs to the waste operators. The truth is the public's contribution in sorting waste from home is urgently needed and can be easily implemented, as it has been for example in countries such as Canada, The Netherlands and Germany. Waste sorting is important because it could increase how much waste is recycled later, thus, reducing waste that ends up in the landfills, the environment, and at the Tynes BayWaste-to-Energy Facility.

Recommendation:

1. Make recycling of Glass, Aluminium and Cans Mandatory

   Mandatory recycling will benefit Bermuda by reducing the amount of waste going tothe Tynes Bay Waste-to-Energy Facility and help remove unwanted items from that waste stream. That will benefit the longevity of the Tynes Bay Waste-to-Energy Facility; provide jobs; reduce the presence of hazardous materials in the ash; and increase revenues from recycled aluminium. Mandatory recycling will also assist in fostering a culture of zero waste Bermuda.

2. Increase recycling collection days:

   Currently, recycling is collected every other week. The current recycling schedule fuels apprehension in households over waste build-up, and therefore many recyclablesend up in the trash. Increased collection days will facilitate proper disposal of recyclable waste by avoiding waste accumulation within households.

3. Promote a designated recycling bin programme:

   Blue trash bags contribute to the plastic problem. Consider designating a recycling binfor households to collect recyclables. Recyclable materials (bottles and cans) can be dumped loosely into curbside recycling bin and facilitate effective processing within the Material Recovery Facility.

4. Establish Household Waste Sorting Points:

[23] https://www.royalgazette.com/environment/news/article/20190606/ministers-tour-recycling-plant/

Permanent waste and recycling points in communal, roadside containers in key community locations will provide an opportunity for citizens to sort their waste at thesource while not having to travel to Tynes Bay Waste-to-Energy Facility or waiting for recycling collection days. Household waste can be sorted by type and put into thecorrect designated containers. Traditional collection points produce unpleasant side- effects: taking up space, overburdening trash trucks and are often an eyesore, with unpleasant smells and vermin. Underground Systems have become a clean, barrier- free and cost-effective solution. These points can be placed in convenient locations
throughout the island, for example: Penno's Wharf, Shelly Bay, Heron Bay, Bull's Head and selected Esso stations.

The Netherlands presents an excellent example of the success of wastedisposal points where waste sorting is done at the source (fig.).

1.3.2 Improve composting

The capabilities of Marsh Folly Compositing Facility are currently under-utilised by Bermuda's Waste Management model. Marsh Folly could be utilised and extended to processBermuda's compostable waste, including household food waste. Food waste has the effect of

lowering incineration temperatures, making incineration less efficient. Composting would therefore lead to more efficient incineration of the remaining waste and reduced greenhouse gas emissions. The absence of rotting waste in trash will also help alleviate Bermuda's current rat infestation problem. Cities such as Portland, San Francisco and Montreal which have instituted food waste composting programmes have achieved great results. The compostcould in turn be sold to farmers and individuals and contribute to Bermuda's commitment to be a more circular economy.

Recommendations:

1. Provide households with a designated Brown Composting Bin for food waste.
2. Initiate compostable waste collection service.

For example:
Initiate a Compost Subscription Service pilot programme and provide composting bins to participating households to initiate the uptake of household composting. Designate compost collection days, create a volunteer or casual labour pickup group. Compostable waste wouldbe brought to Marsh Folly to be turned into soil.

Chapter 2: Communication and Public Outreach

2.1 Educating the population

Across the world, increasing public awareness and understanding of the detrimental impact ofhuman activity on the environment has fostered the development and visibility of policies targeting plastics as a sustainability effort. These efforts have been typically facilitated by education campaigns focused on the symbiotic relationship between human life and the planet and the intrinsic or non-market derived value of the ecosystems we inhabit. Bermuda'sNGOs such as BUEI, Greenrock, BEST, KBB and the National Trust have spearheaded the responsibility to educate the public and our youth on increasingly pressing environmental issues through camps, consultations, forums, presentations, and social media. Recently, Beyond Plastic hosted webinars centred on the SUP ban, BEST produced a SUP ban position paper and BUEI held the island's first Youth Climate Summit. However, often the communication has been limited by an appeal to a like-minded stakeholder group, reducing the traction benefit from engaging other stakeholders and the subsequent alignment with

regulatory intent.[24] Thus, a focus on multi-channel education and communications strategies differentiated by stakeholder grouping is necessary.

Recommendations:

2.1.1 Stakeholder engagement

It is important that Government engage all stakeholders in the discussion regarding future SUP restrictions. Stakeholders would include but not be limited to, the retail industry, importers, consumers, Ministry of Finance and the Ministry of Health. Stakeholders shouldbe continuously engaged in the process of not only the writing of the law, but also its implementation. Beyond Plastic applauds the Government's initial step in creating a publicforum where stakeholders from all sectors voiced their opinion. The next step is to have targeted and transparent consultations with commercial stakeholders and environmental NGOs.

2.1.2 Support NGOs in developing educational school and community events

Bermuda's NGOs play a large role in educating the community on the environmental impactsof plastic and wider environmental issues. However, there remains a gap in cooperation between schools and NGOs, particularly in public schools. Channels could be established between public schools and education providers to permit NGOs to give environmental assemblies regularly during school terms.

We would recommend that Government facilitate environmental education in the schools through school assemblies and involvement with the BUEI Eco-Schools programme. Eco- Schools can monitor and recognise the actions taken at the school level, which include broader communication to the wider school community about what the students have learned.

2.1.3 Enhance school curricula

Review current curricula by the Ministry of Education and identify where environmental issues, particularly those relating to plastic, can be integrated. Emphasize zero-waste living

[24] https://link.springer.com/chapter/10.1007%2F978-3-319-67122-2_14

and the importance of nature-based solutions such as tree-planting, gardening, and composting.

2.1.4 Information campaign partnership with retailers

Develop a QR code that directs users to an information page on how to reduce, compost, recycle and dispose of waste. For example, these QR codes can be adhered to alternative products, on composting boxes and public waste sorting sites. Detailed information on recycling and composting in Bermuda is an easy and accessible way for anyone to learn moreabout how to properly dispose of recyclable waste

Chapter 3: Policy and Legislation

The Government's goal to enact legislation to prohibit the importation of specific SUPs inscheduled phases is a necessary requirement to ensuring SUP elimination. This section outlines policy instruments that can be implemented to support the phased ban of SUPs.

3.1 Bermuda National Waste Management Plan

An updated plan for the modernisation of waste management in Bermuda is complementary to policy targeting SUP, and can even work to envelop this policy into a wider comprehensive plan. A National Waste Management Plan should set out the policy for wastemanagement in Bermuda and cover a period between the present and several years into the future, together under one national plan. Therefore, the Government should consider draftinga National Waste Management Plan defining the future of Bermuda's waste management sector.

Recommendation:

- Set a framework of future waste management in Bermuda and introduce the control of waste policies under a national perspective.
- Focus on the most cost-effective conditions possible with regards to recycling and continue the collection of waste statistics.
- Introduce a target to increase the recycling of household waste by more than 50%.

- Enhance Municipal Solid Waste management in the direction of material and organic recovery.[25]

Examples:

- Netherlands: Third National Waste Management Plan[26] (2017-2023)
- Australia: National Waste Policy Action Plan (2019)[27]
- Ireland: Waste Action Plan for a Circular Economy[28] (2020)

3.2 Extended Producer Responsibility/Extended Importer Responsibility

Consider using Extended Importer Responsibility (EIR) as a tool to encourage a move to plastic alternatives. This could be modelled on Extended Producer Responsibility (EPR) strategies, which use the 'Polluter Pays Principle' that deems producers and businesses to have the responsibility to finance the collection and environmentally sound waste management of their products at end of life. In relation to Bermuda, importers of plastic products might contribute to subsidising proper waste management and disposal of the polluting products they import and education campaigns designed to discourage SUP use. The transfer of the financial (and organisational) burden associated with the management ofend-of-life products from public authorities to producers renders EPR consistent with the Polluter Pays principle (OECD, 2016).[29]

The economic problem with plastic was well documented in a Worldwide Fund for Nature (WWF) report in 2021[30]. This report estimated that the true cost of plastic over its lifetime was ten times its first cost. This gives plastic the appearance of being inexpensive when it isnot. EPR can be utilised to rebalance the economics of plastics.

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[25] https://www.eea.europa.eu/publications/managing-municipal-solid-waste/netherlands-municipal-waste-management/view https://slidetodoc.com/waste-management-in-the-netherlands-an-overview-of/

[26] https://rwsenvironment.eu/subjects/from-waste-resources/national-activities/national-waste/

[27] https://www.awe.gov.au/environment/protection/waste/publications/national-waste-policy-action-plan

[28] https://www.gov.ie/en/publication/4221c-waste-action-plan-for-a-circular-economy/

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https://www.ara.at/fileadmin/user_upload/Downloads/EU_Kreislaufwirtschaftspaket/Kunststoffbroschuere/OECD-EPR-Updated-guidance_report_final.pdf

[30] Plastics: The Costs to Society, The Environment and the Economy 2021 WWF – World Wide Fund For Nature (Formerly World Wildlife Fund), Gland, Switzerland

https://media.wwf.no/assets/attachments/Plastics-the-cost-to-society-the-environment-and-the-economy-WWF-report.pdf

In Bermuda, waste could be prevented at the source by those responsible for importing plasticand they could remain the owners of the plastic they sell and might bear responsibility for its collection after use. EPR is a policy approach adopted in Europe, the UK and Asia in which aproducer's responsibility is extended to the post-consumer stage of a product's lifecycle (OECD, 2001; 2016). EPR holds producers/importers/businesses responsible for the collection and recycling of specified volumes of plastic that they produce and place into the market. In practice, EPR entails that producers 1) assume financial - and sometimes also organisational - responsibility for the collection, sorting and treatment of end-of life products. Deposit refund schemes are a form of EPR.

EPR systems have contributed to the development of efficient separate collection schemes forspecific waste streams, including plastic packaging. Investment and operational costs for waste management of used packaging are now covered at least partly by industry, thus alleviating costs covered by the government for waste collection, sorting and recycling. For example, in Belgium, around €134 million and around €1 billion in Germany are generated annually from fees that come from an established system that address responsibility in the corporate sector.[31]

EPR is a widely used policy to support the transition to a circular economy in the European Union.[32] In the US, Maine became the first state to sign Extended Producer Responsibility (EPR) legislation into law for plastics and packaging materials on July 13, 2021, and Oregonpassed a similar law on August 6, 2021[33]. This reflects a growing momentum towards adopting EPR legislation nationwide. Several of these state bills require producers to pay fora portion of the costs of recycling materials that they put into the market.[34]

EPR instruments: The most common EPR instruments are take-back requirements, advancedisposal and recycling fees, and deposit-refund systems.

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[31] https://plasticsmartcities.org/products/producer-responsibility-initiative

[32] https://www.pbl.nl/sites/default/files/downloads/pbl-cpb-2021-extended-producer-responsibility-design-functioning-effects-4511.pdf

[33] https://www.rila.org/blog/2021/04/extended-producer-responsibility-bills

[34] https://www.bdlaw.com/publications/maine-becomes-first-state-to-sign-extended-producer-responsibility-law-for-packaging-other-states-with-plastics-and-packaging-bills-may-follow-shortly/

1) Take-back requirements oblige producers to collect their products at the end of theirlife and to organise their appropriate treatment. This is usually pursued through specific quantitative collection and/or recycling targets.

2) Advance disposal or recycling fees: upfront payments required by consumers to coverthe end-of life collection and treatment costs of a product.

3) Deposit-refund systems: consumers pay a deposit when purchasing a product and receive a refund (usually of the same value) upon its return to a drop-off point. Thisprovides consumers a price incentive to properly sort and dispose of end-of-life products, and thus to reduce littering.

3.3 Customs CPC Code Amendments

Bermuda's Customs Procedure Codes (CPC) should be amended to provide separate categories for beverages imported in cans, glass bottles, paper-based cartons and plastic bottles. In this way we can gain baseline data and regulate beverages based on container typeand monitor progress toward eliminating plastic bottles.

3.4 Update Health Policy

We have been informed by the Health Department that consumers are not allowed to bring their own containers into restaurants or markets. This extends even to a consumer supplying his own cup for coffee. This policy and/or law needs to be amended to encourage reuse of clean containers provided by consumers for their own use. Waitrose supermarket chain in theUK introduced a programme to encourage customers to bring their own containers[35]. Other markets are following suit[36]. Restaurants also should be allowed to support Bring Your Own Container schemes for takeaway[37] [38]. If this is permissible in the UK and other jurisdictions,then Bermuda's regulations might be similarly adapted.

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[35] https://www.waitrose.com/ecom/content/about-us/sustainability/unpacked

[36] https://www.walesonline.co.uk/whats-on/shopping/supermarket-plastic-wales-campaign-pollution-16625223

[37] https://trashlesstakeaway.com.au/

[38] http://www.byosingapore.com/how-to-byo/

3.5 Environmental Trust Fund

BPB would recommend the creation of an Environmental Trust Fund[39] which would be used to fund continuing environmental education in Bermuda. These have proven to be useful in many jurisdictions as vehicles for funding various environmental endeavours.[40] A Bermuda environmental trust fund might be funded through taxes aimed at reducing SUPs or other contributions. NGOs or other educational organisations could apply for grants to the Trust forfunding of environmental educational programmes. An already established foundation such as the Centennial Foundation could administer the Trust.

Chapter 4: Comments made by importers and/or commercial users ofSUPs

The following is feedback and some common concerns we heard in our discussions with commercial stakeholders. These are not direct quotes, but are paraphrased. These also shouldnot be interpreted as the stakeholders overall impression of the Government's Discussion Paper. Opinions both positive and negative vary greatly amongst individuals.

Now is not a good time to further burden business or consumers

It was stated that given that Bermuda is only just now recovering from the economic impactsof the Covid pandemic, it would be better to delay any new restrictions on imports of SUPs. The BPB position on this comment is that a delay is not warranted. To an extent, it is likely there will always be reasons to delay changes. Change is by its nature disruptive. However, given the increasing rate of plastic use, failing to act now will only exacerbate the problem inthe future. If restrictions are phased in over time, hopefully the changes will not prove disruptive and will occur as the effects of the Covid crisis wane.

Bermuda has to wait for other nations to make the required changes. We cannot forcethe change in products because we have so little market power or influence

We see this as a request for an unrequired delay. Small jurisdictions are possibly the best place to effect change on large issues such as these. Large jurisdictions are often conflictedby political and economic interests and can find it difficult to reach a consensus to remove

[39] http://wiomsa.org/mpatoolkit/Themesheets/E4_Environmental_trust_funds.pdf

[40] https://www.undp.org/content/dam/sdfinance/doc/Environmental%20Trust%20Funds%20_%20UNDP.pdf

hazardous substances. Small jurisdictions however, can begin to influence the larger change that is required. For example, this was one of the ways in which tobacco restrictions began tobe successfully enacted[41]. There is also the question of health. By removing products from the market that are negatively impacting health, we can effect meaningful change in Bermuda, without waiting for the world to act.

Banning Single-Use Plastics will be inflationary

As referenced elsewhere, plastics are priced at an artificially low cost that does not take intoaccount their full lifecycle costs (by a factor of ten). For this reason, in some cases alternatives may appear to have a higher cost. We heard this most often from commercial users who purchase SUPs in case lots or even by the shipping container. In those cases, it could be true that they may experience significant increases in costs when purchasing alternatives. However, those same increases when extended to the end user cost are often a small percentage of the cost of the actual end user product.

Banning Plastics will force business to reduce employment and may force somebusinesses to close

This was always stated without supporting data. This claim has to be evaluated on a sector- by-sector basis and even business-by-business case. For example, if all hot food containers were eliminated in the first instance of restrictions, then certainly restaurants (and supermarkets) that do a significant portion of their business from takeaway hot food would benegatively impacted. Another example would be if a small, local fruit juice bottler who todayuses only plastic bottles. If these at-risk businesses and/or sectors are given time to adjust however it is hoped that impacts could be mitigated. There might be opportunities for cooperative buying to reduce the impact of increased costs which reduce cost impacts on small businesses. Examples are discussed more extensively later in this document.

Reducing plastic usage should be consumer driven, not done by law

In a perfect world we would agree. However, the consumer education required to move the local market away from SUPs will likely require large sums of money and could take many years to achieve. In the intervening time Bermudians and our environment will continue to benegatively impacted by SUPs and their uses grow. Part of the role of good Government is to

[41] https://slate.com/news-and-politics/2021/01/fight-big-tobacco-lessons-big-oil.html

protect its citizens and this is a case where the complex issues surrounding SUPs require immediate Government action.

Plastic doesn't litter, people do. We should encourage and/or educate people to stop littering

Our first issue with this is that the problems surrounding SUPs are many and not simply related to litter. Litter is a serious local issue, but an even more important issue is human health. Continuing to allow people to be exposed to SUPs will negatively impact Bermudian's health. In addition, incineration of plastic which is the end of life for managedplastic waste in Bermuda, is not without human and environmental health consequences.

Specific to litter however, even if we could increase funding for education regarding the negative impacts of litter, we are unlikely to eliminate litter completely from Bermuda.

It should be noted that it was a rare individual who did not preface any concerns of pending restrictions with an acknowledgement of an awareness of the growing plastic crisis. Some want to 'wish away' the problem or hope that we in Bermuda do not have to act on it.

Unfortunately, Bermuda must act on this issue both independently and in concert with othernations to effect change.

Chapter 5: Target Plastics

The Government's Discussion Paper on SUPs gave an extensive list of items that were beingconsidered for import restrictions. Following consultation with importers, BPB would like toprovide the following recommendations.

In all our recommendations we would recommend a blanket allowance for import and use inmedical settings such as the hospital and nursing homes.

Plastic straws

Ban immediately

BPB can see no reason to permit plastic straws of any size to be imported, except foruse in a medical setting. Alternative products are available, including newly introduced Phade PHA home and marine compostable straws.

Plastic utensils (These include spoons, forks and knives, and stirrers)Ban immediately

BPB can see no reason to permit plastic utensils designed for single use to beimported except for use in a medical setting. Reusable utensil kits are widelyavailable and wooden single use alternatives exist.

Plastic bags

The import and sale of plastic bags designed for retail and supermarket use should be restricted immediately.

Careful consideration needs to be given to the definition and scope included. In some jurisdictions bags have been eliminated based on size and/or weight or thickness.[42] This has led some retailers to exploit technical specifications in order to continue to use plastic bags made of heavier plastic (>4mil). This could actually make the problem worse[43].

If possible, we would suggest that use by application be restricted. We would suggestthat all retail, restaurant and supermarket check-out use of single-use LLDPE, LDPE,HDPE plastic bags be immediately discontinued regardless of weight and size. In order to encourage overall waste reduction, we would suggest that replacement paperbags have a significant fee associated them to discourage use of alternative single-usebags.

It is acknowledged that all single-use and even multi-use bags present environmental issues. In addition, any single-use product contributes to our large waste stream. For this reason, part of the goal of new legislation should be to encourage multi-use whenever possible. Studies have looked at how many uses each type of bag needs to be used to reach some defined environmental score[44]. For this reason, we recommendthat at this time, woven and non-woven polypropylene bags of suitable specificationsto facilitate long term reuse be permitted as alternatives, so long as a significant fee is

[42] https://www.pressherald.com/2019/05/30/maine-house-approves-bill-to-ban-single-use-plastic-shopping-bags/

[43] https://www.eatthis.com/news-walmart-using-thicker-plastic-bags/

[44] Kimmel, Sc.D., Robert M., "Life Cycle Assessment of Grocery Bags in Common Use in the United States" (2014). Environmental Studies. 6.
https://tigerprints.clemson.edu/cgi/viewcontent.cgi?article=1006&context=cudp_environment/

charged when provided to ensure that consumers are incentivised to reuse those bags.These bags have been shown to have a low environmental footprint compared to alternatives[45].

We note that there are possibly numerous cases where exceptions should be made by application. For example

Plastic bags for meat: At this time there may be no alternative to supermarkets using plastic bags for meat products. Any exception should bereviewed on an annual basis however.

Ice bags: We know of no substitute for these at the moment due to the weight requirements. This should be reviewed annually.

Dry-cleaning bags: While there are alternative dry-cleaning bags available[46],we have been told they are machine specific and not designed for the equipment in use in Bermuda. Until compostable bags are available for the equipment in use in Bermuda, we would suggest that these be allowed.

Plastic trays: fruit, meat and vegetable trays

- **Fruit trays** packaged in Bermuda should be discontinued immediately.
- **Vegetable trays** should be discontinued immediately.
- **Meat Trays**: If meat trays are going to be used, they present a potential challenge. The best alternative in our opinion is to encourage a return to meat on demand from the butcher counter and eliminate pre-packaged meat, unless it is imported in that form (such as chicken). This is possibly one of the reasons why Europe produces significantly less plastic waste than Bermuda. Grocers have argued that it would be too expensive to provide and wrap meat at the butcher counter. Clearly this would addan expense, but we should quantify this potential financial impact. With pre-packaged

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[45] Ahamed, A et al. Life cycle assessment of plastic grocery bags and their alternatives in cities with confined waste management structure: A Singapore case study, 2021 Journal of Cleaner Production Vol 278 https://www.sciencedirect.com/science/article/abs/pii/S0959652620340014

[46] https://www.ecogarmentbags.com/

meat, the concern is that that blood and meat juices soak into fibre-based trays andrender them unsuitable very quickly. We believe that there may be possible alternatives such as Huhtamaki Fresh[47] and possibly Areca Palm Leaf Trays[48]. A reusable container scheme would also be very feasible at the butcher counters.

Reusables would require a place for a dishwasher and drying.

Our recommendation at this time is that polystyrene food trays be eliminated immediately, but that Polyethylene terephthalate (PET) and polypropylene (PP) traysbe permitted for a period of time while alternative single-use products or alternative methods are identified.

We also recommend that consumer supplied containers be permitted at the butcher counter.

Plastic single-serving food sachets

We believe these should be banned immediately

Products containing microplastics

Industrial abrasives used in sandblasting, household abrasives that contains micro-beads and facial scrubs and other cosmetics that contains micro-beads. Where identified, these productsshould be eliminated immediately if there is no basis for their retention in the market.

Plastic-lined paper cups and food containers

- **Plastic lined COLD paper cups**: Plastic lined paper cups (including PLA lined) designed for cold beverages should be eliminated within one year to give companiestime to source alternatives. Wax-lined cups exist as substitutes.

- **Plastic lined HOT paper cups**: Alternatives for paper cups lined with plastic (including PLA) cups for soup and hot beverages should be eliminated in one year. Alternatives for hot cups exist on the market[49] [50] [51], but may have limited availability.The "Butterfly Cup" may be a possible alternative, as this cup's design has an integrallid, eliminating the need for a plastic lid. The coffee bars in Bermuda expressed

[47] https://www.huhtamaki.com/fresh

[48] https://aplasticplanet.com/materials/palm-leaf/

[49] https://kotkamills.com/products/isla/

[50] https://teaspoons.co/products/copy-of-100-recyclable-isla-bio-hot-cups-12-oz

[51] https://colombier.com/ecological-to-go-cups/

concern about consumer acceptance of the Butterfly Cup, but consumers are adaptable. Elimination of single-use cups should be the goal and toward that end,providers of hot beverages should be allowed by the Health Department to fill a customer's own cup or container for beverages and soup

- **Plastic-lined food containers**: Plastic (including PLA) lined food containers should be eliminated from the market. Most of these containers are used for cold foods whichcan be contained in a fibre product[52] [53] or in a folding box [54].

Plastic cups and food containers

- **Plastic Cups**: Plastic (including PLA) cups are used for cold beverages. Cups such asthe red solo cup and others are significant contributors to our plastic problem. We recommend that all plastic cups should be eliminated from the Bermuda market within one year. Alternatives in the form of wax-lined or other linings for cold beverages exist on the market. Sellers of 'smoothies' and other frozen drinks have become especially fond of serving these beverages in clear plastic cups which permit the consumer to see the beverage. They have expressed concern about a negative consumer reaction if clear cups are eliminated. Often these cups also come with a domed lid. While it may be visually pleasing to the consumer, the beverage itself remains the same in an opaque wax-lined cup. We do not believe that continued use of plastic cups is warranted in Bermuda. As with other beverages, we would recommend that Government permit consumers to bring their own cups for beverages.

- **Plastic food containers (cold)**:
  We would recommend that plastic food containers for cold food be eliminated fromthe market in one year. These containers are used widely for sandwiches, sushi and other cold and usually drier items. As discussed above, good alternatives exist for cold food transport.

- **Plastic food containers (hot)**:

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[52] https://www.ecoproducts.com/eco-products-announces-vanguardtm-a-new-line-of-sugarcane-compostable-plates-containers.html

[53] https://www.sabert.com/products/pulp-36-oz-rectangle-container

[54] https://www.westrock.com/products/folding-cartons/bio-plus-terra-ii

Alternatives to plastic food containers for hot foods are difficult to find. For example,those used at Indian takeaway and hot food buffets at some supermarkets. This is unfortunate as the black plastic commonly used by these establishments is a health concern[55] and is possibly one of the most-used SUPs. According to restaurants and supermarkets we spoke to, the existing fibre containers presently on the market do nothold up well to the wet hot and often acidic food that goes into the containers at temperatures up to 180 degrees F. After a short time, the containers begin to soak through.

At present the only solution for these establishments other than SUPs would be to move to a reusable scheme. The additional benefit of a reusable scheme is that it eliminates a large single use disposable source from Bermuda's waste stream. There are such schemes that are working in the US such as Green to Go in Durham North Carolina. Such schemes could be operated independently or by the restaurant themselves. Containers could be made of stainless steel or reusable polypropylene. The former is better from the health perspective, but the containers are more expensive. Products made from other materials are being investigated by BPB. A reusable scheme would also require some space allocation for collection, a commercial dishwasher and space allocation for drying. At Green to Go (which operates as a third party to multiple restaurants), containers are collected at restaurantsand other locations and washed and dried after hours in a restaurant kitchen. Clean containers are then sent to the participating restaurants for that day's service needs. Atpresent they are cleaning approximately 2000 containers per week.

At this time Beyond Plastic is continuing to investigate the various systems that existto see if there is an existing model or some combination model that might work in Bermuda.

Given the volume of this business sector, we would recommend that action on this market segment be delayed until most of the other SUPs are tackled. It may be that suitable alternatives for hot foods may not exist and that a reusable system is the only

[55] Turner, A Black plastics: Linear and circular economies, hazardous additives and marine pollution, 2018 Environment International Vol 117

https://s3.documentcloud.org/documents/6140350/Turner-2018-Env-Int.pdf

way forward. We would recommend that incentives for reusables such as duty breaksand possibly other tax incentives be put in place.

Styrofoam products

These include food service containers (e.g. clamshell and hinge containers, bowls, plates, hot and cold beverage cups and egg cartons). We recommend that all these food containers, including Styrofoam ice chests, be eliminated from the market immediately. Polystyrene, Expanded Polystyrene (EPS) and Extruded Polystyrene (XPS) are considered amongst the worst plastic polluters[56] [57] [58]. This is due both to itschemical components, production issues and its physical properties.

Unfortunately, EPS is widely used by Bermuda's food service industry and supermarkets. Applications include vegetable trays, meat trays and takeaway containers. Recommendations for those applications are presented elsewhere in thisdocument.

Plastic single-use beverage pods

Unfortunately, plastic beverage pods have grown in popularity in the past decade. In our opinion, this is one of the prime examples of the world being 'killed by convenience'. There are so many examples of ways to make coffee without pods, even as single servings, that we assume it unnecessary to enumerate them in this document. For those who wish to retain their pod-based machines, there are reusablepods or home compostable pods. Moving people away from these may take some time however and they form significant portions of some small businesses' revenue streams. It is unclear if any home compostable pod products exist at this time, so theonly alternative may be reusable pods. Given this we would suggest that elimination of these products be given two to three years to allow businesses to move away fromnon-compostable pods.

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[56] https://medium.com/age-of-awareness/why-styrofoam-expanded-polystyrene-should-be-banned-everywhere-in-the-world-4101552f5e2b

[57] https://saferchemicals.org/2014/05/26/styrene-and-styrofoam-101-2/

[58] https://cehn.org/our-work/eco-healthy-child-care/ehcc-faqs/faqs-styrofoam/

Plastic-stemmed cotton buds

These should be eliminated from the market immediately

Oxo-degradable plastic

Oxo-degradable[59] plastics should be eliminated from the market immediately. Theseplastics do not degrade, but only break down into microplastics more rapidly.

'Biodegradable' plastic

We would suggest that this term be redefined since some plastics such as Polyhydroxyalkanoates (PHA) will naturally biodegrade in the environment. This is opposed to polyactic acid (PLA) which does not biodegrade except in an industrial compost facility. We would recommend that this restriction be rephrased to only allow those products that are certified as *home compostable* by TUV[60] or another certification organisation.

Plastic water bottles and other plastic beverage bottles.

An exception is recommended for large five gallon and three gallon polycarbonateplastic water bottles that are returned and refilled (Deposit Refund)

Background

The plastic drink bottle is normally made of Polyethylene terephthalate (PET).This polymer, though invented in 1941, was only formed into bottles in 1973. Since that time the use of PET bottles for water and soft beverages has exploded to the point thatone million plastic bottles are used every minute globally. PET bottles are not suitablefor all beverages however. As a case in point, alcoholic beverages including beer and wine are not typically sold in PET bottles for a variety of reasons. If and when beer and wine can be delivered in plastic, our concerns with plastic bottles will potentially double.

The concerns with the PET bottle are the same as the general concerns with other SUPs. Those are, environmental concerns, environmental justice concerns, plastics

[59] https://www.european-bioplastics.org/eu-takes-action-against-oxo-degradable-plastics/

[60] https://www.tuv-at.be/green-marks/certifications/ok-compost-seedling/

impact on climate change and health concerns. To focus just on health, the plastic bottle is part of the larger issue that concerns the chemicals used to manufacture plastics, some of which are proven Endocrine Disrupting Chemicals (EDCs). Some chemicals that have been used in the manufacture of plastics are suspected carcinogens. That stated, however, the PET bottle if stored and treated properly (kept cool and not deformed), then the levels of the chemicals of concern may be within governmentally set acceptable limits. It would be fair to ask how the limits were set, but we will ignore that question for this discussion. It should be considered that it is likely that not all plastic bottles are stored under proper conditions or treated in a manner to reduce leaching of chemicals. The other issue is that the general public is exposed not just to PET bottles: the issue is that plastic bottles exist alongside plastic food trays, plastic cutlery, plastic wrap, plastic packaging, plastic that we have ingested, plastic that we breathe and numerous other sources. In addition, EDCs are also found in the food we consume (from pesticides and herbicides) and from contaminants in our home, such as PFAS. The effect of cumulative exposures to thesechemicals can add up and have effects on an adult body, affect the development of children and affect foetal development. This is termed 'the cocktail effect'.

Feedback from a supplier

In the BPB meetings, one beverage importer stated that they were unable to make any suggestions regarding steps they could undertake to reduce plastic bottle use in Bermuda. That importer sees the plastic bottle issue as completely out of their control.The overarching opinion was that sales of PET bottles is driven by consumer demand and local importers are only responding to that demand. It was felt that only public education could change people's habits and desires, such as the case that occurred with sugary drinks.

It should be noted that the alcoholic beverage industry appears to represents 50 - 75%of the shelf space allocation in many local markets (liquor, beer and wines). It should also be noted that the alcoholic beverage industry relies almost completely on glass and aluminium cans for distribution. The shelf allocation is likely reflects the fact thatthe worldwide alcoholic beverage industry is larger than the soft drinks industry by almost a factor of two, but how that relates to unit sales we do not know. The point is that this larger industry relies on a delivery vehicle that is heavily reliant on glass and

aluminium. This is due to the chemical and technical limitations of plastic. If the alcoholic beverage industry could source a plastic bottle which met the technical requirements, the world and by extension Bermuda, would (or will) face an even larger problem than we do today. This is obviously not a Bermuda issue but, is stated as an example of an industry that can exist, even in Bermuda, relying heavily on glassand aluminium.

Recommendation: Bermuda's Customs Procedure Codes (CPC) should be amended to separate beverages imported in cans, glass bottles, paper-based cartons and plastic bottles. In this way we can gain baseline data and regulate beverages based on container type.

Roughly 481.6 billion plastic water bottles are produced in the world annually[61]. Thishas no particular bearing on Bermuda however, other than we know we are a small part of the problem. We should determine how large Bermuda's contribution to the plastic bottle issue is in raw numbers and per capita.

We know that a certain percentage of waste in Bermuda ends up as litter, as we cansee it on our roadsides. An unknown percentage of that litter then finds its way to local waters. Once in the water that ocean litter either becomes local coastline litter,part of the Atlantic Ocean gyre litter or eventually, coastal litter in another jurisdiction. How much is entering the local environment is difficult to quantify.
Those opposed to Bermuda taking action to reduce plastic imports argue that given that we do not know how large our contribution to ocean plastic is, taking action against plastic imports is premature. They suggest that we should study and documentto determine if we are contributing enough plastic to the local and global problem to warrant action.

In fact, we do have some statistics about how much trash gets picked up by KBB on land and from our shoreline. While we applaud data driven decision making, we feel that in this case it is a spurious line of criticism. Survey data and by the fact that KBB

[61] https://graphics.reuters.com/ENVIRONMENT-PLASTIC/0100B275155/index.html

is able to organise people (1847 people over three years 2016 - 2018[62]) to collect litter, indicate that Bermudians believe that litter is an issue. If the importers would like more local data, then studies could be done. However, we would argue that thosestudies should be funded by the importers. Conducting more in-depth analysis in Bermuda is not our recommendation however, due to the funding requirements.

Whether Bermuda is better or worse with regards to waste leakage than the global averages is immaterial. People in Bermuda appear to agree that we have a litter problem. We also know from KBB trash studies that among the greatest contributors to litter are plastic bottle caps and plastic bottles. So, while certain importers may be satisfied that the majority of our trash finds its way to the Tynes Bay Waste-to-EnergyFacility, it appears that many Bermudians do not think that is good enough.

Recommendation: Document the numbers of employees directly involved in theimport of soft beverages.

There have been cases in the past where sales of certain products have been deemed to have a negative impact on the Bermudian community and therefore the sale of those products is restricted and/or sales are discouraged. In those cases, protecting thepublic outweighs the concerns of the purveyor. There are, however, other factors which may be taken into consideration, such as employment. It could be that concernsover employment mitigate concerns of product safety. In the present case, the argument is that the business of beverage importers will be negatively impacted and the importers will have to reduce employment. That argument has also been extendedto the sales agents for those beverages. No data or basis for this claim has been made except that approximately 50% of the beverages sold come in PET.

While this argument may have some merit, consumer demand has some degree of flexibility. If plastic bottle brand X is not on the shelf, how willing will the consumerbe to switch to glass bottle brand Y? We do not know the answer but, it is likely that it does not exist at the extremes of possible outcomes. Determining the maximum number of employees that might be affected by eliminating plastic bottles would be good data to have. Employment disruption at any time is not a good thing and on theback of a challenging pandemic is further cause for understanding the potential for impact in this employment sector.

[62] KBB - Summary-Bermuda - covering 2016, 2017, 2018

The above stated, in other cases, such as tobacco where public education and increasing taxes reduced the sales of tobacco over time, we can assume those salesreductions led to a reduction in the numbers of people employed to sell those itemsover time. Whether this was disruptive to the employees of the wholesalers or retailers in that case we do not know.

Reseller sales impacted by soft drink sales: In our discussions we heard opinions that at least in the 'grab and go' coolers located in smaller convenience stores and markets, that 'as long as it was cold, it was sold'. While we cannot state any conclusions based on data, we will be surprised if sales at the small retailers and takeaway restaurants will be greatly impacted by the removal of beverages in plastic bottles from 'grab and go' fridges. And as discussed above, even in the case of multipackage sales, there is likely some flexibility in consumer's decision making. There will be a decrease in variety but, we feel that with sufficient consumer education that residents will accept the changes. We hope to find volunteer restaurantsthat are willing to test this.
In the case of market variety it is likely true that consumers are used to purchasing certain brands, in certain sizes, and in certain containers. This is due to a variety of factors, but there could be consumer complaints if all their favourite products disappeared at once. Consumers will change and develop new habits, but there is onlyso much change that people can easily accommodate at one time.

Recommendations: Increase duty rates on beverages imported in plastic containersand reduce duty on beverages imported in glass, cans or cartons.
We would agree that an instantaneous ban on imports of plastic bottles could be disruptive, to consumers, business and employees. As with other public health issues,in order to steer demand gradually (but steadily) away from plastic bottles and towardalternatives gradually, we would recommend increasing the duty rate on plastic bottles and drinks imported in plastic bottles. Further we would recommend continuing to increase that rate over time based on predetermined import metrics. Forexample, if after 'X' years the percentage of plastic bottles remained at 50% of soft beverage imports, then the duty rate would increase. If after a further 'X' years the

import target of 60% of soft beverages was not met, then there would be a furtherduty increase. That could continue until a desired target was achieved.

Note that there are some small bottlers of beverages in Bermuda. We would want toencourage them to shift their containers to alternatives over time.
This approach would have the benefit that it would not be viewed as an outright ban.People are accustomed to the increased duty rate approach with products that are considered harmful. It would lead to a gradual reduction over a defined time to give importers and consumers time to adjust. This would allow the smaller importers andlocal beverage bottlers time to move to alternative products or containers.

The duty increase on plastic bottles would help balance the differential between products supplied in plastic versus alternatives. As has been documented the price ofplastic is artificially low[63], so this approach helps address that imbalance.
Variety would remain unchanged initially and if importers were unable to source replacement beverages in alternative packaging, reductions would be gradual and giveresidents the opportunity to adjust.

Recommendation: Use Funds Generated Through Tariff increases to fund a vigorous consumer education campaign.
We would encourage Government to use any increased revenue stemming from duty increases to fund a robust consumer education programme or an Environmental Trust.As with any public health issue, consumer education will be key to acceptance and success of the programme. This education should include all the issues relating to plastic, encourage reuse rather than single use and include communication aimed at significantly increasing recycling.

Recommendation: Make changes in equipment and facilities necessary to facilitate increased rates of recycling.

[63] Plastics: The Costs to Society, The Environment and the Economy, 2021 World Wide Fund for Nature WWF https://europe.nxtbook.com/nxteu/wwfintl/tcops/index.php#/p/1

Economics of Collecting Trash: The fact that volunteers feel compelled to spend theirfree time collecting litter that was imported and sold by local companies is unfair to those volunteers and is economically unsound. Importers and retailers should be responsible for paying for the collection and impact of the litter which results from their imports and sales. Litter is produced by careless consumers, but those products are provided for by businesses that should bear some economic responsibility for the resulting waste. A follow-on argument is that poor consumer behaviour results from
lack of consumer education. The argument continues that 'we' should invest in more education so that people stop littering. Education is a wonderful idea and we would agree that more is required. However, education comes at a cost and that cost is in fact part of the hidden or unrealised cost of the products which are imported and become litter. Those costs should be passed on to importers and become part of the cost of purchasing the products.

End

Appendix (A):

Recommended Implementation Phases from BEST's *Regulating SUPs in Bermuda: policypaper for public consultation*, August 2020:

1) Public information campaigns on SUPs be conducted as soon as practically possible in 2021, continuing through the proposed phases of legislative changes as outlined below.
2) Public consultations be held in 2021 to review the proposed bans and to prepare the discussions for further bans.
3) A SUPs procurement policy be implemented for all departments of the Bermuda ahead of legislative bans and ahead of legislative bans.
4) Legislation to prohibit the importation of specific SUPs be enacted by early 2022: Phase One.
5) Legislation to **ensure that non-plastic alternative products (to plastic products subject to anyban) are fully biodegradable be enacted by the first half of 2022.**
6) Legislation to prohibit the sale, distribution, and use of the banned SUPs be enacted by the end of 2022: Phase Two
7) Legislation be enacted to ban the release of helium-filled balloons outdoors.
8) Planned charges or fees on the use of SUPs to be scrapped in favour of the above bans.
9) Public consultations be re-commenced in 2022, or after one year from the first importation ban, to assess the effect of the bans and to consult on the next round of plastic items to be banned.
10) Public education campaigns on the dangers of SUPs be continued throughout 2022.
11) Legislation to prohibit the importation, sale, distribution, and use of further banned SUPs be enacted by the end of 2025: Phase Three