

Ending the Throwaway Culture: **Five Principles for Tackling Single-use Items**

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Foreword



Dame Sue Bruce
Chair
Expert Panel on Environmental Charging and
Other Measures

I, and my Panel member colleagues, have welcomed the opportunity to contribute to the development of policy on reducing our throwaway culture and tackling Scotland's dependence on single-use items.

Ending the Throwaway Culture: Five Principles for Tackling Single-use Items is the second and final output from the Expert Panel. It is designed to be a tool for anyone looking to take steps to reduce the reliance on single-use items, offering practical and helpful guidance.

Earlier this year, I was pleased to accept an invitation to contribute to the Advisory Group on Economic Recovery, Chaired by Benny Higgins, which had a remit to provide expert advice on Scotland's economic recovery once the immediate emergency, created by coronavirus, has subsided. An aspect of this was to consider how government policy can help the transition towards a greener, net-zero and wellbeing economy.

I hope that the **Five Principles for Tackling Single-use Items** will be useful to policy makers and organisations who want to use this opportunity to develop greener ways of working as they prepare for the "new normal" by considering how they can reduce dependence on single-use items and to focus on being part of the green recovery. There has never been a better time to take steps to reduce environmental harm arising from our everyday habits. This must continue to be a priority for us all if we are to achieve the goal of being a net-zero society by 2045.

As this marks the end of the Panel's term, I would like to thank the Cabinet Secretary for Environment, Climate Change and Land Reform for inviting us to inform the Scottish Government's policy on single-use items. I would also like to express my sincere thanks to the Panel of experts for their commitment to completing this work and the Secretariat team for their ongoing support.

Background

This is the second, and final, Report of the Expert Panel for Environmental Charging and Other Measures. This document sets out five Principles (the 5Es) that can be effectively used to reduce the dependence on single-use items that are commonplace in society. Applying these Principles would allow any policy maker, public organisation, business, third sector organisations/NGO or individuals to understand the complex issues around single-use items and to consider how they could develop a targeted and focussed approach to reduce their use.

The Panel

In the Programme for Government 2017-18, the First Minister announced her intention to further develop the circular economy in Scotland through a number of measures, including appointing an Expert Panel on Environmental Charging and Other Measures. The Panel's remit was to examine how to reduce demand for single-use items, with the goal of encouraging long-term and sustainable changes in consumer behaviour.

In May 2018, the Cabinet Secretary for the Environment, Climate Change and Land Reform announced the membership of the Panel. Details of the Panel membership and approach can be found in Annex B. The Panel first met in June 2018 and had a working life of two years. Its purpose was to identify bold actions and provide advice to Scottish Ministers on charges or other measures which may be adopted in Scotland, to tackle our throwaway culture and move towards a circular economy. Following the publication of the Panel's recommendations on single-use beverage cups in July 2019, this second report sets out the Panel's view on how further policies to tackle single-use items should be developed.

Wider context

The Panel's considerations have concluded in a changed policy landscape; responding to the worldwide Covid-19 pandemic has been the essential focus for every country. In Scotland, it has resulted in re-prioritisation to allow the government to focus on essential activity to respond effectively to the issues arising. However, prior to Covid-19 the Scottish Government has indicated, in its Programme for Government 2019-20, that it intends to continue to match the pace envisioned by the EU Directive on plastic products post EU Exit.

The Panel has developed these Principles to be practical and understandable. As such, the Panel has purposefully made no assumptions about users' knowledge or understanding of this issue. The aim is that this document can be used by anyone to consider the issues around single-use and what action could best be taken to reduce consumption of single-use items effectively. The focus in tackling single-use should not be solely on plastic, single-use or otherwise, but on any type of item that is designed or suited to being used for only a short time. This is vital to reduce pressure on our natural resources and deliver a circular economy.

Finally, as the focus moves forward from the immediate Covid-19 response to the long-term recovery, it can be seen as an opportunity to address the issues around single-use items. The pandemic has introduced some new challenges; the rise in use of single-use gloves and masks shows the need to consider how easy it is for new single-use items to become ubiquitous. At the same time it demonstrates clearly why the Panel's focus on an overall approach rather than specific items was the correct one.

The recent focus on the economic recovery in Scotland has included a clear message that there is an opportunity, as set out in the [Report of the Advisory Group on Economic Recovery](#), to build a greener, fairer and more inclusive society. The Panel is confident that these Principles will be an excellent tool for anyone looking to promote or embrace the green recovery and become part of a more circular economy. There is a clear opportunity to become more sustainable and ethical and demonstrate an understanding of the impact our collective and individual choices and values have on the planet.

Ending the Throwaway Culture: Five Principles for Tackling Single-use Items

Single-use items have become a defining feature of our modern-day economy and consumer culture. They have transformed the way products and services are provided. However, the rise in items that are discarded after a single use has also led to damaging environmental and social impacts.

The impact of our excessive consumption on both the climate emergency and biodiversity loss is now widely recognised. In response, there is a pressing need to move towards a circular economy. A circular economy is part of the solution to solving these major environmental issues - one in which products, services and systems are designed for reuse to maximise their value and minimise waste.

Aim of the Principles

The environmental imperative to act on single-use items is clear; however knowing the best steps to take in response is less clear. The purpose of these Principles is to provide a robust and holistic foundation to guide thinking about reducing consumption of single-use items.

The Principles will help users and policy makers to widen their perspective and consider single-use consumption as a whole. This will help determine when and how it is appropriate to replace single-use items.

When could the Principles be used?

The Principles are intended to be used at the outset of developing policy and government interventions, but they can be used by any organisation, business,

individual or community that wants to reduce their reliance on single-use items. This can be in anything from daily items used by consumers, to designing and delivering services as part of a successful business model.

The Five Principles

The Principles (5Es) help decision makers ensure holistic policy design by thinking through five key aspects:

- 1. Essential Functions:** Is the single-use item essential?
- 2. Evidence:** What is known about the problem?
- 3. Equality:** In solving the issue can we ensure equality?
- 4. Engagement:** Who can tell us more about the issue?
- 5. Entire System:** How is single-use reinforced by current practices, habits and infrastructure?

Report Structure

This report is divided into three chapters: the problem of single-use items is set out in more depth in Chapter 1, Chapter 2 sets out the 'Principles', and Chapter 3 gives guidance and practical examples on how to apply them. Annex A provides a library of additional resources.

Chapter 1:

The problem with single-use items

The rising costs of our throwaway society

Single-use items¹ are everywhere. Many modern business models are entirely based around their use and they are intrinsically linked to a culture of convenience. Single-use containers, cups, cutlery, and sauce pouches have been integral to the rise of ‘on-the-go’ service models.

Environmental impacts

The single-use, throwaway consumption model provides short-term convenience to consumers and businesses. However, it creates long-term damage to the environment and society. Consumption of single-use items has a large carbon footprint. For example, Scottish households consume 130kg of grocery packaging each per year which generates an estimated 650,000 tonnes in global production emissions per year (or 0.8% of Scotland’s carbon footprint).²

Many single-use items are hard to recycle and end up being landfilled or incinerated resulting in the valuable energy, materials and labour that went into making them being lost. If these items enter the environment as litter/pollution, they can cause severe disruption to local ecosystems causing significant biodiversity loss – particularly in marine environments.³

The materials used for packaging account for 0.8% of Scotland’s carbon footprint.

Litter

Single-use items make up the majority of the roadside and residential litter in Scotland. This litter comes with large social, economic and environmental costs. For example, it costs the Scottish taxpayer approximately £78 million per year to undertake all activities related to keeping Scotland’s streets and public areas clean of litter and flytipped materials.⁴

Hidden economic and social costs

In addition to environmental impacts, which have received a lot of attention over the last few years, single-use items also negatively affect consumers directly through the hidden cost of single-use items.

Consumers in Scotland are estimated to spend £600 million buying more than 300,000 tonnes of single-use packaging with their groceries every year.

Research by Zero Waste Scotland has shown that consumers in Scotland are buying more than 300,000 tonnes of single-use packaging with their groceries every year.⁵ This equates to Scottish households collectively paying an estimated £600 million annually: a significant spend which is hidden within the overall price of their groceries.

1 Single-use items: Items designed to be disposed of without being reused or replenished.

2 [The Hidden Cost of Grocery Packaging, Zero Waste Scotland.](#)

3 [UN Environment – Plastics and Shallow Water Coral Reefs](#)

4 [National Litter Strategy Partner Guide Part One: Enforcement](#)

5 [Hidden Cost of Packaging – Zero Waste Scotland](#)

Demand for overall reduction of single-use items

There is growing societal awareness of the implications of dependence on items that can only be used for a short time and a move towards a more circular economy where reuse and repair are viable and practical options. There is public understanding that we need to redesign our relationship with resources, and consider the impacts of the whole journey from production through to disposal.

Beyond single-use plastics

The unique characteristics of plastic, and the unique damage it can do to the environment has understandably captured the focus of policy, industry and public awareness. However, by replacing single-use plastics with another single-use item of a different material we risk simply changing one set of environmental problems for another (such as more land or water use).

Compostable items can only break down in specialised facilities. If they are littered or end up in landfill, they still cause environmental harm.

“We must avoid a wholesale and rapid move away from plastic, as the role of this material is vital not just in the protection of goods (like food) but its production and use can often have a lower carbon footprint than alternative materials.”

UK Plastics Pact Update December 2019⁶

The problem is not simply with plastic as a material, but rather with single-use as a model of consumption. Indeed, plastic

may form part of the best environmental, economic and social solution. As such, we need to look beyond tackling single-use plastics towards reducing single-use consumption as a whole.

“Piecemeal policies that only tackle certain uses of plastics or encourage simple substitution for other materials could lead to environmental impacts down the line that could be avoided if foresight is used.”

Green Alliance – ‘Fixing the System’⁷

Changing the model of consumption from single-use to reusable

Addressing the consumption of single-use items requires a fundamental mind-set shift away from making single-use better to phasing out the need for single-use items. It will require collaboration and coordination across the value chain including amongst those designing, procuring and ultimately using those items.

Prioritising action on single-use items

Not all single-use items are created to be of equal value. When deciding what action to take on a single-use item it is important to understand the individual item. Appropriate action depends on what the item is used for, how long it is used for, and who it is used by.

What is the best solution for one item in one scenario, may not be appropriate for a different item or a different scenario. The Principles outlined in this report help users and policy makers to widen their perspective and consider single-use consumption as a whole including when and how it is appropriate to replace single-use plastic items.

⁶ UK Plastics Pact Update 17th December 2019

⁷ [Green Alliance – Fixing the System](#)

Chapter 2: The 5Es

When designing policy to reduce usage of single-use items, the Expert Panel recommend following five key Principles (5Es):

1. Essential functions
2. Evidence
3. Equality
4. Engagement
5. Entire system

Designing policy to tackle single-use items is complicated, with many factors to consider and trade-offs involved. Following these Principles will ensure holistic policy making and enable informed decisions to be made. The Principles are outlined in Figure 1. The rest of this chapter sets out these Principles in detail.

1. Essential Functions

Is the single-use item essential?

Single-use items deliver many different functions. These include maintaining hygiene, complying with health and safety, keeping food fresh and safe to consume, transporting produce, bundling items together, marketing products to the customer, and enabling food to be consumed. Some of these functions are essential while others are not, for example, multi-pack wrapping is useful but not essential.

By mapping out why certain products are used, we can see what core functions they deliver. Perhaps more importantly, we can also identify who the function is provided for. Thinking about a single-use item in terms of its functions and uses enables us to identify alternatives and possible interventions. It also brings into view the equalities implications of innovative solutions and alternatives, as well as potential barriers to the solutions being adopted.

What are the functions of single-use items?

Single-use items deliver many different functions. Some can be classed as essential, while others are not.

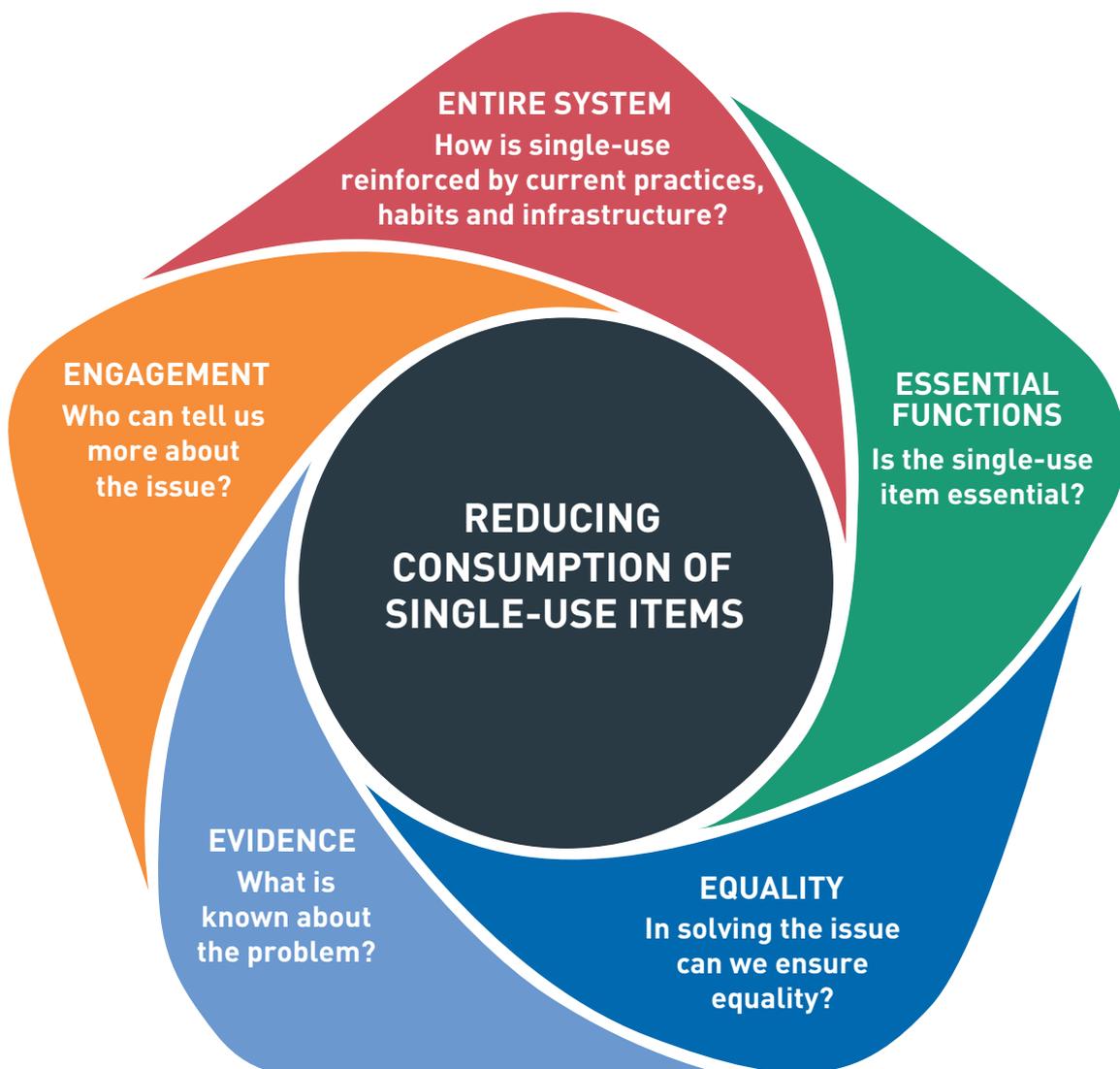
Examples of essential functions:

- Protecting an individual's health and safety
- Providing life enhancing functions for disabled people
- Ensuring the core product can be consumed
- Preserving a food product and reducing food waste
- Preventing damage to another product

Figure 1: The 5Es to help design effective solutions to reducing single-use item consumption

Five principles for tackling single-use items

Consumption of single-use items needs to reduce. EPECOM have outlined 5 key principles below to ensure inclusive and appropriate solutions are developed.



2. Evidence

What is known about the problem?

Evidence-based policy is at the heart of robust decision making. At the outset, ask 'what do we know about this?'. Using the best available evidence on key issues can reveal the impact (and unintended consequences) of any proposed action.

Evidence building is not a one-off action and should be part of an iterative loop. In this cycle the evidence base is developed and expanded as the policy design process evolves. Each of the other Principles presents a facet of the problem for which evidence and understanding should be gathered.

There are a range of different tools to help gather evidence, including academic reviews, stakeholder engagement, market research, life-cycle assessment and cost-benefit analysis.

In particular, it is important that sufficient evidence is collected on a range of environmental impacts associated with each solution being considered. These include impact on land use, biodiversity loss, energy, water consumption, and end of life pollution. This will help reduce the risk of replacing a particular single-use item with another which could be more environmentally harmful.

3. Equality

In solving the issue can we ensure equality?

In developing solutions, it is necessary to consider if anyone would be affected unequally and how any negative effects can be mitigated.

Equity ensures that people from all backgrounds have access to the particular products and services that they require. At the same time equality requires that people across society have equal access to things. When taking action on single-use items, it is important to make sure that there is fairness.

In terms of equality, this means that any action should make sure that everybody is treated the same. In terms of equity, it means that everybody has access to what they need and should not be denied something that they rely on. There may not be a universal solution and a suite of measures may be required.

Assessing equality impacts is not a one-off exercise, rather it is an ongoing activity that should be done as you develop your policy proposals. Involving people from a variety of backgrounds and experiences such as gender, age, disability, class, income, and geography from the start of the policy process will help flag issues early on. Start from the assumption that every decision will have an impact, you just may not know it yet. Involve the people who may be affected as they can help you identify unforeseen issues with proposals for change, and help to ensure the policy works for everyone. As the policy develops engagement is an ongoing activity to make sure that this involvement is maintained.

4. Engagement

Who can tell us more about the issue?

Effective engagement is essential in developing solutions to reduce consumption of single-use items. Engagement can help contribute evidence on issues including essential functions, equality, product design, supply chains, lifecycle impacts and consumer habits. Engagement can also help to identify possible solutions to issues at all stages of the policy design process. Involving relevant stakeholders or representative organisations is therefore an essential element of effective decision making.

Engagement can take many forms and involve different groups of people. Stakeholders and specialists may have technical knowledge that is required. Similarly, consumers and retailers will know a lot about how an item is used in everyday practice. Each of these views and voices can be very valuable in informing evidence and all should be included

in developing policy actions. The best way of engaging with each group of people will differ and care should be taken to identify different groups and engage with each on their own terms.

5. Entire System

How is single-use reinforced by current practices, habits and infrastructure?

In addition to considering the functions a single-use item performs, it is also important to consider how a single-use item fits within the wider product delivery system. Lifecycle thinking and lifecycle assessment are two tools which can be used to understand the entire system.

Existing systems can often favour single-use items over reusable options. For example, many on-the-go consumption and business models are built upon single-use items. This makes it difficult to implement an alternative that sits higher up the waste hierarchy, like using reusables.

Implementing reusable solutions, or eradicating use of some items entirely, may therefore require systemic change. It is only by considering the entire system that the full range of solutions, and their implications, including both intended and unintended consequences, can be identified.

Lifecycle assessment can be conducted to calculate the environmental performance of an item across all its lifecycle stages spanning the entire system of a circular economy. Similarly, a lifecycle thinking approach can be used for considering how a product fits within the entire system. Lifecycle thinking can help understand what happens with an item at every stage of its production and use: how it is made, what it is used for, by whom, and what resources that takes over the course of its lifespan. Lifecycle thinking can also be complimented with cost-benefit analyses to allow for an economic appraisal of options. As a result, it is possible to identify what items are avoidable or can be switched to reusables in a certain context.

Chapter 3: Applying the Principles

Background

This Chapter outlines how you can use the 5Es in your own projects. The Principles do not offer a step-by-step prescriptive tool – rather they provide the necessary foundations to develop appropriate solutions. A list of questions are provided for each Principle as examples of those that could be considered when making decisions.

The questions include those which the Expert Panel used in the first phase of their work. Alongside the questions, for each Principle, a case study is provided detailing how the Principle was followed in the first phase of the Panel's work. This work resulted in the publication of eleven recommendations to the Scottish Government on single-use disposable beverage cups.⁸

Before looking at each Principle in turn, we present the sorts of policy options that can be used as solutions to single-use items, as well as an approach to prioritising action.

Potential policy actions

Appropriate actions for tackling single-use items depend on the context in which an item is being used. The context determines what solutions are available, as well as who the item is used by and whether it can be avoided or an alternative option is available.

In many cases policy makers as well as decision makers in businesses and other organisations already have levers available to them to address single-use items. Applying the Principles will help you determine which is the most appropriate for your particular item and context. Examples of the main interventions used to deal with harmful items are:

- Bans – items can be removed from either the national market, or from a local area like an office, event or other closed settings.
- Charging – charges can be placed on single-use items to reduce their consumption and encourage shifts in behaviour towards reusable alternatives.
- Reusable schemes – provide a pool of reusable items that are borrowed and returned either for free or for a small deposit.
- Extended Producer Responsibility – makes producers responsible for the environmental costs of the items that they place onto the market in order to incentivise product design change.

⁸ Report of the Expert Panel on Environmental Charging and Other Measures: Recommendations on Single-use Disposable Beverage Cups

Prioritising action

When deciding what policy action to take on a single-use item, action should be determined based on the purpose and properties of the item (See Fig. 2). The first step should be to identify whether the item is essential or not. If it does not provide an essential function then it can be classed as unnecessary and the item should be removed from the market. An item can also be deemed unnecessary if its use is avoidable or reusable options are available.

If the single-use item provides an essential function and cannot be eliminated, it should be avoided or replaced where possible. This will depend on the specific context of who is using it and where. Solutions should seek to avoid the item in suitable contexts and/or replace the problematic item with a reuse model of consumption where possible. Charges and reusable schemes are policy levers that can encourage single-use items to be replaced with reusable ones in certain contexts.

In the situations where a reuse model is not feasible and the item cannot be avoided then, it should be considered whether the item can be redesigned to make it less environmentally harmful. Solutions should seek to redesign the item to be fully recyclable under mainstream household and business recycling services. All single-use items that remain on the market should be captured and recycled.

The EPECOM 5E Principles can help work through the challenges and map out what combination of policy levers will be most effective and appropriate for tackling specific single-use items. The remainder of this chapter offers a range of questions decision makers can ask for each Principle when developing measures and policy interventions.

Figure 2:



Essential Functions

The Panel's work on single-use cups identified two key issues, what alternatives exist to single-use items, and how different solutions would work best in different environments. Finding answers to these issues centred on the question of what a product enables a consumer or producer to do. Alternative solutions need to ensure essential functions are provided.

Questions on essential functions to consider in decision making include:

- Is this item unnecessary? Note that an item can be considered unnecessary if it does not provide an essential function or if its use is avoidable or reusable options are available.
- How do people use the single-use item?
- Who uses the item, and for what purposes? Think of the producer or business owner as well as the consumer, does the product enable them to save on costs or service a certain operating model?
- Which of the item's functions are essential and which are non-essential functions (e.g. branding, communicating lifestyle choices)? Note that stakeholder perspectives on this might differ: branding might be seen as essential to a company, but not to a consumer.
- How can the essential functions be fulfilled by reusable alternatives and systems?
- Are there any examples of these essential functions being delivered via a reuse model?

CASE STUDY – Beverage cup functions

In the example of beverage cups, the single-use item is a cup but the core product the consumer is purchasing is the beverage.

The essential functions that need to be met are therefore to:

- Allow you to hold a drink without leaking.
- Protect you from being scalded by hot drinks.
- Facilitate consuming drinks on-the-go.

Non-essential functions that a cup can fulfil include:

- Branding.
- Communicating lifestyles.

Evidence

Working from the best available evidence was core to the Expert Panel's work from the start. The Panel considered evidence from a broad range of sources and stakeholders including published literature and reports and in-person engagement.

Questions on evidence to consider in decision making include:

- What is the scale of the problem (and is it likely to increase)? How many items are used each year? What happens at the end of life?
- Are the items often littered and/or impact negatively on wildlife?
- How resource intensive are they to produce?
- What are the environmental consequences of relying on these single-use items?
- What are the environmental impacts of alternative items?
- Who uses these items and why?
- What are the impacts on equity and inclusion, both of using these items and potential policy interventions?
- What solutions/best practice are being developed elsewhere?

CASE STUDY – Evidence on single-use beverage cups

To ensure a robust evaluation of best available evidence on measures to reduce usage of single-use cups, the Expert Panel commissioned an independent review* of existing literature on price-based intervention to promote behaviour change on cups.

Evidence was also drawn from experiential learning from reusable cup scheme pilot studies run by Zero Waste Scotland. An example of which was a [trial](#) introducing a cost neutral charge on single-use cups at a large Scottish hospital. The results indicated an increase of reusable cup usage from 1% to 43% and a large reduction in single-use cup consumption.

This collective evidence formed the basis for the Panel's draft recommendations. These were then presented to stakeholders during two engagement sessions, to test and supplement the information gathered in the review, adding different forms of knowledge to the evidence base.

The outcomes of the stakeholder engagement were fed back to the Panel, who used the feedback to refine their recommendations. The final Report was presented to Ministers, and included information on existing knowledge gaps and where further research and trials would be needed.

* Poortinga, W. (2019) EPECOM Rapid Review of Charging for Disposable Coffee Cups and other Waste Minimisation Measures – Full Report.

Equality

Equality and inclusion were of pivotal importance to the Panel from the start. The appointment of a dedicated disability expert and a youth representative to the Panel ensured equality issues were kept at the forefront of discussions.

Questions on equality to consider in decision making include:

- Are the essential functions of a product the same for everyone? Is there additional/other equality issues that are of importance to disabled people?
- Will policy interventions restrict access to a product for people who need it? Will everybody have access to what they need?
- What are potential barriers to using reusable products and reusable schemes for physically disabled consumers?
- What are potential barriers to using reusable products and reusable schemes for cognitively disabled and neurodiverse consumers?
- Would there be any unintended consequences that certain solutions may have on physically and cognitively disabled people?
- Will policy interventions unequally impact on any groups of people? For instance, based on age, income, or geography such as young or old people, people on low incomes, or people in rural areas.

CASE STUDY – Equality perspectives

Equality and inclusivity should be embedded in the policy making process from the beginning. The Expert Panel membership featured a disability expert as well as a youth representative, which helped ensure these perspectives were central to the Panel's process of formulating recommendations.

Including diverse perspectives throughout the Panel's process when looking at single-use beverage cups helped address initial blind spots in the policy process. For example, while evidence indicated switching to reusable cups would not present significant challenges for disabled people, the Panel learned that cognitively impaired and neurodiverse consumers might find it difficult and stressful to have to remember to carry a cup with them.

Furthermore, it was highlighted that specific consideration on the design of the reusable cup lid was necessary to ensure that the risk of spillage is minimised for those consumers who have difficulties in holding a cup steady.

These learnings are now being fed into additional reusable cup scheme trials being run by Zero Waste Scotland, the evidence of which will feed directly into the policy making process.

Entire System

As noted in previous chapters, consumption of single-use items is closely linked to existing business models and production systems. For example, the current model of on-the-go consumption reinforces demand for single-use items like cups, cutlery, plates, stirrers and sachets. In addressing the problem of single-use cups, the Panel considered how consumers' use of cups is a part of a system including on-the-go business models and consumer culture.

Questions on entire system to consider in decision making include:

- Are there examples from around the world where reusable models have been successfully implemented?
- What are the systemic barriers to taking up reuse? Would reusable systems require infrastructure investment for example?
- How do business models benefit from single-use items and how can these be disrupted?
- What are the policy/legislative barriers restricting the development of reusable schemes and uptake of reusable items?
- How does business as usual (single-use item consumption) compare to reusable item schemes in terms of consequential system lifecycle assessments⁹ and cost benefit analyses?
- What are the unintended consequences of eliminating or avoiding one particular single-use item within an entire system?
- What knock-on effects does action on one single-use item have on the wider system?

CASE STUDY – Drink delivery

Single-use cups have become an essential part of the on-the-go food and drink system. Determining how to move from single-use to reusable cups requires consideration of the entire system.

In considering effective measures to reduce usage of single-use cups, the Expert Panel looked at the role of cups in the wider drink delivery system. This included the lifecycle assessment of single-use and reusable cups*. Moreover the Panel wanted to understand the barriers to reusable cup uptake within the existing system and how they could be removed.

For example, practical barriers to reuse were identified (via case studies of best practice from around the world) such as a lack of facilities to rinse cups on-the-go, along with the fact that many drinks retailers do not offer a reusable cup even when customers are sitting in. Cultural barriers are also present with on-the-go now being seen as a social norm and consumers preferring to have takeaway drinks than to take the time to sit in.

Barriers to reuse like these are inherent to current operating models, which make it difficult for behaviour change oriented measures such as charging to achieve maximum reduction in single-use cup use without wider interventions across the entire system.

*Zero Waste Scotland (2019) – Cups Sold Separately report

⁹ Consequential LCA's include the indirect changes in a system as a result of the product, rather than simply the impacts of the processes used to produce, consume and dispose of the product.

Engagement

Stakeholder engagement is essential to building a full understanding of the reality of the challenge as well as an opportunity to explore alternative solutions. Stakeholders who can provide insight on the other Principles outlined above (equity, essential functions, evidence and the entire system of consumption) should be engaged with. A broad and diverse set of stakeholders should be engaged with. Overall a range of different methods can be used including public and private stakeholder events, focus groups, interviews, and surveys. During their work on single-use cups, the Panel engaged with relevant stakeholders to inform their decision making.

Questions on engagement to consider in decision making include:

- Who can tell us more about the problem?
- Who is developing novel solutions to the problem?
- Are there any perspectives we need to include to avoid missing an issue?
- When should different groups be engaged in the process?
- What is the best way to engage different groups in the process?
- What existing fora and networks could be used to share knowledge and expertise?

CASE STUDY – Stakeholder engagement

Following initial engagement with a leading academic as part of their evidence gathering, the Expert Panel conducted engagement exercises to identify further evidence on equalities impacts on single-use cups and refine its emerging proposals. The Panel hosted two stakeholder engagement events to have a two-way conversation with key stakeholders. Through their network of contacts, the Panel invited members of industry, NGOs, youth and equality groups to attend the events. Engagement was also undertaken with leading innovators in the field who were developing solutions aimed at reducing consumption.

At the stakeholder events, the Panel presented their emerging thinking and asked for additional evidence. The sessions were designed to allow all attendees the opportunity to discuss the Panel's proposals in small groups and to provide evidence on any issues that may have not been considered. Stakeholders were able share their views direct to Panel members and Panel listened to this feedback. This two-way exchange helped all stakeholders understand each other's perspective.

The evidence gathered from this engagement was used to further refine the Panel's propositions and identify outstanding issues.

Conclusion

Looking to the future, it is clear that at the domestic and international level Covid-19 has had a profound effect on human society. However, as with any chain of events that can cause an absolute change to the view we have of the world, the pandemic can be a catalyst for change for individuals, companies, communities and for countries.

The path Scotland takes as it returns to normal, or a new version of normal, can be marked by a change in focus. There is already support at a national level for a green recovery and that can bring with it a positive focus. In addition, some people may have, during lockdown, re-evaluated their views on life's priorities and environmental matters or come to realise some habits can be changed to reduce the impact they have on the planet.

It is vital that everyone is reminded that these environmental issues are still there and they need to be addressed urgently if we are to create a more circular economy to sustain our society and environment.

ANNEX A: Library of Resources

Below is a select list of useful resources to refer to when developing appropriate solutions to reducing consumption of single-use items¹⁰.

Green Alliance: Fixing the system: Why a circular economy for all materials is the only way to solve the plastic problem

The '[Fixing the System](#)' report outlines that in response to public pressure, the government is rightly tackling plastic pollution but, in only addressing individual uses of plastic in a piecemeal way, it is not getting to the root of the problem and is storing up new environmental issues for the future.

In this report Green Alliance explains why the plastic-only approach is not working, and call for a fundamental rethink of resource use and management to ensure a safe, sustainable and efficient system.

The research is published as part of Green Alliance's work for the Circular Economy Task Force.

UK Plastics Pact: Eliminating Problem Plastics

This [report](#) outlines the eight problematic or unnecessary single-use plastics set to be eliminated under The UK Plastics Pact by the end of 2020.

Avoidable – can it be avoided in the context within which it is being used?

Replacement with reusable or alternative options

Design – selecting the type of plastic, design and manufacture to increase recyclability (using recycled content where practicable)

Investment in labelling, messaging and collections/recycling infrastructure to boost retrieval and recycling

Ellen MacArthur Foundation: Reuse - Rethinking Packaging

This [new release](#) from the New Plastics Economy team provides a framework to understand reuse models by identifying six major benefits of reuse, and mapping 69 reuse examples. Based on an evaluation of more than 100 initiatives, and interviews with over 50 experts, it aims to inspire and help structure thinking. Reuse - Rethinking Packaging provides a basic description of how different reuse models work as well as typical implementation challenges.

Green Alliance: Plastic promises: what the grocery sector is really doing about packaging

Companies are under public pressure to stop using plastic. A market shift away from plastic for packaging in the grocery sector is happening surprisingly slowly with companies just starting to substitute single-use plastic for other single-use alternatives. But, overall, the amount of plastic packaging in use has not altered significantly. However, there are signs that this change could accelerate and, in this [report](#), Green Alliance explores the trends and potential consequences.

Resource Futures and Nextek: Eliminating avoidable plastic waste by 2042: a use-based approach to decision and policy making

In response to increasing public and waste sector attention around issues relating to waste plastics, Resource Futures was commissioned by the Resourcing the Future partnership to develop a [framework](#) to assist products manufacturers, the waste management sector and policy-makers with making decisions around waste plastics.

¹⁰ Note: Any publications published after the publication of this report will not be included.

Ellen MacArthur Foundation: A toolkit for Policymakers

The report [Delivering the circular economy: a toolkit for policymakers](#), describes a step-by-step methodology and demonstrates its application through a case study in Denmark. The toolkit itself is comprised of a 178 page detailed step-by-step guide to policymakers. However, it is complemented by an online resource of case studies and shorter summary document which highlights key 'exhibits' from the main document. Since the release of the Toolkit, the methodology has been used across a wide variety of projects and government types, e.g. for the Interreg project CirCE. The project involves eight regional and local partners using the Toolkit to increase the capabilities of their policy instruments.

The case study of Denmark applies the tools presented in the methodology and evaluates opportunities in five focus sectors: food and beverage; construction and real estate; machinery; plastic packaging, and hospitals.

IDEO and Ellen MacArthur Foundation: The Circular Design Guide

New [Circular Design Guide](#) helps businesses and designers solve linear problems with circular design. The Design Guide has been developed by IDEO and Ellen MacArthur Foundation with input from leading businesses, over 400 students and specialist design institutions.

The tool includes 24 methods and a resource bank enabling change makers, entrepreneurial innovators and students to get to grips with the circular economy. The resource aims to embed circular design thinking, enabling businesses to re-think value creation to develop more circular products, services and resilient, feedback-rich organisations.

Unlike the Ellen MacArthur Foundation Toolkit, this toolkit is in the form of a website and provides lots of individual resources for the designers including design sheets, case studies and methods for circular design. It does not have a central document.

United Nations Environment Programme: An analysis of life cycle assessment in packaging for food & beverage applications.

This [report](#) summarises the knowledge base on lifecycle assessments in food and beverage packaging. The optimal packaging design from an environmental performance standpoint will vary according to packaging system characteristics such as raw materials chosen for use, the specific product being packaged, and the corresponding supply chain.

The analysis provides practical guidance to support decision making regarding environmental performance of packaging for food and beverage applications. In addition, it provides a foundation of understanding for other packaging stakeholders (consumers, retailers, NGOs, etc.) of the challenges and opportunities related to driving common environmental sustainability goals for packaging in the food and beverage industry.

Institute for European Environmental Policy: Justifying plastic pollution: how Life Cycle Assessments are misused in food packaging policy

This [report](#) sets out the importance of considering the entire system in lifecycle assessment. Including all life cycle stages across the entire system is critical because it prevents the decision maker from inadvertently shifting the environmental burdens from one stage to another that lies outside the system boundaries. For example, a full lifecycle assessment will consider the end-of-life disposal of a product and whether it is recycled, landfilled or leaks into the marine or terrestrial environment via incorrect disposal (i.e. littering).

Furthermore, looking at the entire system means that the LCA considers the indirect environmental impact of the single-use item. The indirect impacts result from the way in which the item influences consumer behaviour. At present there is limited knowledge and data available on these indirect impacts of packaging.

Involve: Deliberative public engagement – nine principles

The aim of this [document](#) is to encourage and support good quality deliberative public engagement activities.

There are lots of organisations and resources available to help with planning and conducting engagement. In the UK these include the public participation charity Involve and the Consultation Institute. The Involve website has helpful materials on engagement methods and case studies.

ANNEX B: About the Panel

Chair: Dame Sue Bruce, served in Local Government for almost 40 years, finishing in 2015. Sue is now retired but has a number of roles and positions.

Vice-Chair: Professor Dame Theresa Marteau, behavioural expert

Professor Liam Delaney, economist

Professor Margaret Bates, waste industry

Professor Aileen McHarg, legal expert

Professor Kate Sang, Disability and Equality expert

Gemma Stenhouse, Youth Leadership and 2050 Climate Group representative

Dr Ian Archer, biotech and chemical industry (from September 2019)

Mike Barry, Former Director of Sustainable Business at Marks and Spencer

Roger Kilburn, biotech and chemical industry (until June 2019)

The Panel's Approach

The Expert Panel agreed a set of guiding Principles to underpin its way of working; and to provide a reference point to guide and inform its consideration of key issues and assessment of potential options and recommendations. These Principles were:

- **Outcomes focused and evidence informed:** Focus on the difference that measures can make to address Scotland's throwaway culture. Base recommendations on best available evidence on key issues and impact of different options, and consider unintended consequences of measures.
- **Targeting:** Prioritise preventing single-use materials being used, before looking at reuse, recycle and recovery options. Take into account the different lifecycle impacts of specific materials. Consider how measures add up and impact groups differently.

- **Proportionality:** Only propose additional measures when necessary. Solutions should be proportionate to the problem and the potential costs of implementation. Consider all options for achieving objectives, prescriptive actions as well as educational measures.
- **Transparency, integrity and accountability:** Explain clearly how and why recommendations are made. Be open to public scrutiny and publish summaries of discussions. Clear line of accountability to Scottish Ministers, and regularly review and Report on progress.
- **Consistency, coherence and context:** Consider whether existing policy measures work together in a joined-up way. Identify opportunities to strengthen co-ordination and coherence to maximise impact. Take account of the wider context.

The Panel's Work

Over the two years since the Panel was established they have grappled with the complex issues that define the aspects of the throwaway culture and, as tasked by the Cabinet Secretary for Environment, Climate Change and Land Reform, with a remit to examine how to reduce demand for single-use items. Importantly they were also looking to advise on the use of charges, similar to the successful single-use carrier bag charge, with the goal of encouraging long-term and sustainable changes in consumer behaviour.

Following a focussed piece of work on single-use disposable beverage cups, which included considering evidence developed by the University of Cardiff and evidence from the Scottish Government's own removal of single-use cups in its main buildings, the Panel produced a Report on Single-use Beverage Cups, which was presented to the Cabinet Secretary in July 2019. The Report was welcomed by the Cabinet Secretary and activities are underway to respond to the

recommendations in the Report. Many of these have been impacted by the Covid-19 pandemic, but will be revisited when it is appropriate to do so.

In July 2019, after the publication of its first Report, Report of the Expert Panel on Environmental Charging and Other Measures: Recommendations on Single-use Disposable Beverage Cups, the Panel considered their options for their final year. They recognised that it would not be sensible, or practical, to focus on items one by one. There are too many and, as we have recently seen, new unexpected single-use items become prevalent all the time, for example face covering and gloves are now a common single-use items which would never have been expected 12 months ago when the Panel began this second phase of work.

The Panel decided to turn its attention to developing a tool that could be used to consider single-use items and spent the remainder of their time developing these Principles as a source of guidance and assistance to policy makers and organisations that want to consider reducing their dependence on single-use items.

The Panel's Output

The Panel has produced a number of documents, as detailed below:

- [Recommendations on Single-use Disposable Beverage Cups](#)
- Knowledge Account on single-use disposable beverage cups.
- Rapid review of charging for disposable coffee cups and other waste minimisation measure: Full literature review (University of Cardiff, 2019).
- Case Study of Scottish Government ban of single-use disposable cups

More information on the Panel and its work is available on its webpages:

<https://www.gov.scot/groups/expert-panel-on-environmental-charging-and-other-measures/>.



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