

Single Use Plastics

Update Report

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Introduction

Scotland Excel is the Centre of Procurement Expertise for Scotland's local government sector and our vision is to provide innovative, transformative solutions for local and national public services across Scotland. Scotland Excel's services are designed to help councils challenge reducing budgets at a time of growing demand. Working together through Scotland Excel, councils can realise a host of social, economic and environmental benefits from their spend.

Background

The environmental impact from plastics and disposal of this has been clearly stated from national and international media outlets. Recent documentaries such as the BBC's *"The War on Plastics"* prompted interest from both politicians and the general public to seek environmentally friendly alternatives and solutions.

The impetus for change in Scotland grew momentum in January 2018 when councils were contacted by MSP Kate Forbes to look at removing plastic straws from council establishments. Consequently, Scotland Excel contacted the milk framework suppliers to determine what could be done to eliminate plastic straws from their supply chains and subsequent products. The feedback from suppliers was positive; one supplier highlighted developments in packaging style to allow plastic straws to be compressed and recycled along with the drink's carton; other suppliers were looking at advances and innovation in their programmes by developing paper or other biodegradable drinking-straw materials. Scotland Excel is currently witnessing a greater interest from the councils on these solutions.

In late 2019, another of the framework suppliers committed to removing all plastic straws by the end of 2020. The company advised a proposal of a fully compostable straw, which, if successful, will begin the permanent roll out of the paper straws by the end of March 2020. The supplier stated "It is important that we launch a sustainable paper straw that is fully functional, recyclable and does not compromise on food safety. We also recognise our responsibility to provide sustainable solutions to our customers that will enable us, as a collective, to move towards a low carbon circular economy".¹

School children are similarly aware of the harmful effects of plastic pollution and, inspired by the Swedish activist Greta Thunberg, are now becoming actively involved in the environmental campaign. One local example of this saw Sunnyside Primary School in Glasgow being instrumental in lobbying politicians and suppliers for their "Nae straw at aw" campaign. This is an encouraging strategy by these children and Scotland Excel will outline the advantages of this campaign during development of relevant Scotland Excel frameworks.

In addition to the milk framework, within Scotland Excel's Corporate & Education portfolio of frameworks, many items include a plastic composition. This includes janitorial products, education materials, PPE and washroom solutions. However, it is the catering sundries framework that is most

¹ https://resources.mynewsdesk.com/image/upload/t_next_gen_article_large_480/kewdmjemnc3kp2ccpicv.jpg

affected by single-use-plastics (SUPs). Scotland Excel is now actively working with suppliers to seek more organic materials or to provide acceptable disposal methods in order to offer an eco-friendlier choice to councils.

As part of the UK Plastics Pact, eight problematic, or unnecessary single-use plastics are set to be eliminated by the end of 2020. These are:

- Disposable plastic cutlery;
- All polystyrene packaging;
- Cotton buds with plastic stems;
- Plastic stirrers;
- Plastic straws;
- Oxo-degradables that break down to create microplastics;
- PVC packaging; and
- Disposable plastic plates and bowls.

In addition to these items, a further 19 plastic items and materials are now being investigated for removal such as, single-use drinks bottles, non-detectable black plastics etc.

While there is a need to find more sustainable alternatives, or better disposable solutions to plastics, not all plastics are necessarily bad and not all alternatives are necessarily more environmentally friendly. Scotland Excel has therefore provided a summary below of the arguments for and against plastic use based on information gathered via market research, from the supply base and by attending a Holyrood conference in January 2019 on this matter.

Say No to Plastics

There are well documented problems of large-scale plastic use in our towns and cities – beach and ocean pollution; urban and countryside pollution. This is visible on visits to any of these natural places of beauty within Scotland. As a result of this, there is a requirement for volunteers from schools and workplaces to help clean up plastics from beaches, parks, urban streets etc.

A campaign to “#STOPthePlasticTide” identified that over 260 species of marine life including whales, dolphins and birds are affected by plastic pollution. These animals ingest the plastic litter that ends up in our seas and oceans. The litter includes nurdles - small plastic pellets - cotton buds, balloons, etc. and many species die from starvation, unable to eat because their stomachs are full of such plastics.

An alarming statistic is that Scotland’s plastic pollution around coastlines increased by 14% between 2017 and 2018. Clean-up in Scotland in 2018 showed there to be 559 plastic items within a 100-metre area on beaches and coastlines. Marine Conservation Society (MCS) report that for every 100 metres of Scottish coastline cleaned, there were on average almost 147 plastic/polystyrene pieces: 16 plastic caps /lids; 36 plastic cotton bud sticks; 27 wet wipes; 16 drinks cans and bottles; six plastic bags; and three 3 plastic / polystyrene cups.

In 2018, more items flushed down the toilet such as nappies, cotton buds and wet wipes – were found on Scottish beaches than anywhere else in the UK. The message therefore is “Go Plastic Free” ²

More recently in 2019, MCS stated, “As long as we carry on using plastic as much as we do, the estimation is that, by 2050, there will be more plastic in our seas than fish”. However, in order to promote Scotland’s natural environment and encourage responsible engagement for plastic prevention, MSC advise that 2020 will be the year of coasts and waters. Inspiring families with children to help out at their local beach clean is a practical and fun way to learn about the consequences of marine litter. ³

Keep Scotland Beautiful (KSB) confirmed that more than half the litter on our streets comes from food and drink waste. This includes; food (27%), sweet wrappers (24%), cups (19%), cans (11%), plastic bottles (9%), crisp packets (9%), glass bottles (1%).

These findings have been discussed with Scotland Excel’s suppliers during contract management meetings. Current suppliers endeavouring to reduce plastic packaging and focus instead on reusable replacements, advised the following examples: a sandwich wedge which uses a water-based, compostable material; a plant-based straw, which is strong and heat resistant, is fully compostable and emits less carbon during production than plastic alternatives. However, these products tend to come at a higher cost than their plastic alternatives.

A comparison between the top 5 single use plastic items has been conducted to identify what the cost may be to move to more sustainable alternatives, the results of which can be found in appendix 1 of the report. On average, to move to wooden or biodegradable cutlery, would cost approximately 265% or 411% more. Moving to paper straws over plastic straws would also be approximately 455% more expensive. It should be noted that these prices are an indication and are without any further negotiation between Scotland Excel and suppliers.

“The Circular Economy” – is an economic system aimed at minimising waste and making the most of our resources. It extracts the maximum value from the resources whilst in use, then recovers and regenerates the products and materials at the end of each service life. This helps to reduce the environmental impacts of our production and consumption. Cleaning up the environment requires a behaviour change. KSB note that stages to transform a behaviour go from; 1. being totally unaware, 2. becoming aware, 3. preparing to take action, 4. taking the action, and 5. to maintain and sustain the changed behaviour. ⁴

Zero Waste Scotland (ZWS) advised a blueprint for an advanced plastics recycling plant, which would assist in sending as little as possible to landfill or incineration plants. They also recommend measures that can be taken to reduce the negative impact on the environment, such as:

- Say no to straws;

² Marine Conservation Society

³ <https://www.theyworkforyou.com/sp/?id=2019-10-03.24.0&s=poverty>

⁴ Keep Scotland Beautiful

- Keeping and reusing your cup;
- Use a bag for life;
- Change to metal cutlery instead of plastic;
- Where possible, reuse plastic instead of discarding them.⁵

Scotland will be the first country in the UK to implement a deposit return scheme (DRS). This will provide opportunities in relation to environmental improvements by changing people's attitudes to recycling and littering and thereby helping to build the circular economy.

The Scottish Government introduced the DRS later in 2019 with full roll-out planned throughout Scotland 12 months after this. The scheme will require drinks retailers to add a 20p deposit to the take-away price of all aluminium cans, glass and some plastics containers above 50ml and up to three litres in size. The consumer will have two options to get their 20p deposit back: they can return the empty bottle or can to the retailer; or retrieve their deposit via a reverse vending machine. The scheme will be run by an independent, privately-run, not-for-profit company, with the system being paid for through three sources of funding - unredeemed deposits, revenue from the sale of materials and a producer fee.

The consultation paper for the DRS was presented to the Scottish Parliament in September 2019 and the accompanying statement and proposed regulations advised that the Scottish Government is committed to creating a more circular economy where products and materials are kept in a high-value state of use for as long as possible – thereby maximising resources to benefit the economy and the environment.⁶

As well as retail outlets, schools and other community centres will be able to act as return locations. Therefore, Scotland Excel will discuss the DRS with suppliers in the upcoming frameworks for groceries and provisions as well as catering sundries, to see how this could potentially be embedded into these frameworks.

Why Plastics are Required

There is abundant support currently against the damaging environmental consequences of using plastics, particularly single use plastics. However, 'The Grocer' noted that although alternatives to plastic materials, like metals and glass, have been put forward as options, these are not always practical for health reasons and for both the cost and environmental impact. E.g. replacing plastic straws for glass or metal straws is highly likely to cause injuries when in the mouth of patients with nervous or neurological conditions. In addition, paper straws disintegrate over time therefore are not always practical or cost effective.

⁵ Zero Waste Scotland

⁶ <https://www.gov.scot/publications/deposit-return-scheme-scotland-regulations-accompanying-statement-proposed-regulations/>

Highlighted below is a list of these alternatives and the risks associated with them for impaired or disabled users:

	Choking Hazard	Injury Risk	Not Positionable	Costly for Consumer	Not High Temperature Safe
Metal		√	√	√	
Bamboo		√	√	√	
Glass		√	√	√	√
Silicone			√	√	
Acrylic		√	√	√	√
Paper	√		√		√
Single-use					

The table above highlights that for impaired and disabled people, the safest option for all five risks listed, is SUP.

The outcome from this assessment was that there should be pressure on all concerned to create biodegradable straws that are safe for the environment and disabled people, and that disabled or impaired consumers should not be marginalised. Their end message in relation to SUPs was for effectiveness, inclusivity and accessibility.⁷

Some councils have also highlighted this as a concern to Scotland Excel, due to the varying numbers of users accessing the frameworks. If the elimination of SUPs is detrimental to disabled or impaired consumers, Scotland Excel will ensure accessibility to these products, where required.

As well as this, transporting lower weight materials like plastics, as opposed to metals and glass, is less harmful to the environment because fewer vehicles are required, which burn less fuel and ultimately produce less greenhouse gas emissions.

Research has also found that the manufacture of paper bags, as opposed to plastic bags, adds significant additional volume and weight to the waste stream, in turn increasing harmful greenhouse gas emissions during transportation of this. It would take approximately seven lorries to transport two million paper bags, versus one lorry to transport two million plastic bags.⁸

It also takes more than four times as much energy to manufacture a paper bag as it does to manufacture a plastic bag. The majority of paper bags are made by processes at high temperatures using chemical solutions. These chemicals can then pollute waterways, with the toxicity of the chemicals being long-term and settling into the sediments, working its way through the food chain.

⁷ Heriot Watt University

⁸ <http://www.niassembly.gov.uk/globalassets/documents/raise/publications/2011/environment/3611.pdf>⁶

Ian Quinn, The Grocer, Nov 2018

Reusing paper bags is also difficult because of the material's tendency to tear and research demonstrates that paper in landfills does not degrade or break down at a substantially faster rate than plastic does. ^[ibid]

Therefore, to enable a solution that would be fit for purpose for all users; industry, scientists and plastic products' consumers should be aiming to work with each other to create long-lasting design products.

A White Paper by **The Grocer** from June 2019 emphasised that a better understanding of the impact of all packaging - not just plastics – is urgently required. They advised “There is no quick fix, especially if the sector is to effectively decouple plastic production from finite resources”. There should be urgent cooperation between scientific experts and the supply chains to seek optimal solutions.⁶

Developing materials that that can be maintained, repaired, reused, remanufactured and recycled, rather than the throw away practice we currently have, challenges the environmental impact of plastic use today and may, in fact, bring about a more sustainable use of plastic materials.

Conclusion

The argument against the use of plastics highlight alarming statistics which show increases year on year of single use plastics washing up on Scottish shorelines. This attests to a plastic pollution that is widespread, long-lasting and a rapidly growing problem. Microplastics are even more dangerous because they absorb and concentrate the toxins around them and carry them into food chains.

The main argument for the use of plastics comes from a health perspective. Alternatives to plastic straws have still not been successfully developed to provide a safe and sustainable option, for example for disabled and impaired people. In addition, current substitute materials to plastics are costly to transport, although, information forthcoming to Scotland Excel via contract management meetings suggest that suitable, alternative materials are being developed.

During development of future Scotland Excel frameworks and throughout contract management meetings, Scotland Excel will continue to challenge suppliers in order to seek sustainable innovation with the products and solutions they provide. This will include, offering organic/ecological alternatives to plastics; how they can minimise plastic on packaging; any improvement methods or ideas they can offer to store waste packaging prior to destroying or recycling; and ultimately to find ways to reuse products again and again.

In addition to this, Scotland Excel asked suppliers during recent contract management meetings to define any environmental impact they have made via community benefits. This included: providing a pallet of compost free of charge to an Edinburgh primary school; donation of wood & purchase of recycled furniture via a Dundee charity and donation of a bench from recycled paint cans to a community centre in North Ayrshire.

Therefore, the main message taken from both the “for” and “against” arguments is that a solution is urgently required to recover and regenerate the products and materials at the end of each service life, thereby minimising waste and making the most of our resources. Scotland Excel will seek these kinds of solutions by discussing that concept widely during current contract management meetings and in future tender developments with potential suppliers.



Appendix 1 – Cost Comparison

Product Description	Approximate Cost	Alternative Product Description	Product Make Up	Approximate Cost	Alternative Product Description	Product Make Up	Approximate Cost
Plastic Dessertspoon	Pack of 1000 - £5.50	Biodegradable Spoon	CPLA	Pack of 1000 - £28.50	Wooden Spoon	Wood	Pack of 1000 - £20.00
Plastic Fork	Pack of 1000 - £5.50	Biodegradable Fork	CPLA	Pack of 1000 - £28.50	Wooden Fork	Wood	Pack of 1000 - £19.00
Plastic Knife	Pack of 1000 - £5.50	Biodegradable Knife	CPLA	Pack of 1000 - £28.50	Wooden Knife	Wood	Pack of 1000 - £18.50
Plastic Teaspoon	Pack of 2000 - £7.21	Biodegradable Teaspoon	CPLA	Pack of 2000 - £35.50	Wooden Teaspoon	Wood	Pack of 1000 - £15.00
Plastic Straw	Pack of 250 - £0.63	Biodegradable Straw	PLA	Pack of 400 - £4.40	Paper Straw	Paper	Pack of 250 - £3.50