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Banking on the UK's Glass Deposit Scheme

October 2024



Introduction

As you may have already heard, the UK is inching towards introducing a Deposit Return scheme. This is not a new idea, and it signals a return to past ways of reusing. But for some people, this is new. In this article we will update you on deposit return schemes, and for those familiar with the idea, we are going to explore how such a scheme might work in the 2020's - decades after it disappeared.

If you're imagining a deposit return scheme you may be thinking about the old UK milk scheme, where old milk bottles were returned by being left on the doorstep. The Deposit return scheme proposed today looks very different. It's actually a proposal whereby most retailers selling drinks that are supplied in glass, plastic, steel, or aluminium packaging will need to add a 10-20p deposit per container sold, which can then only be returned to the customer once the container is brought back for recycling. This deposit price must be paid by the customer, as businesses are prohibited from absorbing the fees.

Sounds simple? Not really. Behind the scenes, each retailer will have to provide a return collection point for customers who can drop their old containers off. These are then collected and further sorted by Deposit Management Organisations (DMOs) which will be set up for this specific purpose. They will be funded by unredeemed deposits and the profits made from selling the recycled material, as well as producer fees. Once this is complete, the refund will then be issued to the consumer.



What is interesting about this proposal is that not all types of drinks containers will be collected. What will be collected is glass*, Polyethylene terephthalate (PET) plastic and metal, and they have to be between 50ml to 3L in size.

You might have spotted that Asterix* next to glass. That's because only Wales are committed to including glass in this scheme.

And here in lies the problem. Clearly, opinions are split, but let's try to get a better look at the arguments from both sides.

Why we should include glass in the UK DRS

- **Including glass in this scheme can increase the rates of glass recycling.** Glass simply does not decompose, since there is currently no known organism on Earth that can break glass down, unless you count the natural wear and tear from being knocked around over a long timespan that can turn a bottle into fine glass powder. This process only takes about a million years. Probably more if the glass is in landfill. Because of this, it is vital that we recycle as much glass as possible, and a DRS can incentivise people to take glass containers in for recycling at higher rates.
- **The environmental benefits we get by not needing to produce as much new glass.** Since it's one of the few materials that is 100% recyclable and can be recycled again and again to no end without any loss to quality, there would be less need for extracting raw materials like sand and limestone that are needed for alternative products. In turn, this can help in nature conservation and lowering carbon emissions.
- **We could recover the economic value of recycled glass containers.** Since the materials can be endlessly reused, this would contribute to the creation of a circular economy where manufacturers would see a reduced cost in buying materials for further development.
- **Since glass is a fragile material, it often breaks when disposed of, which can pose a danger to humans and animals alike.** If more glass is recycled, there will be a reduction in glass litter, making public and green spaces safer and cleaner, both from sharp injuries as well as wildfires.
- **Finally, not including glass could lead to economic and financial losses.** The infrastructure to collect glass is already present in some areas of the UK, but no longer likely to be in use once the scheme launches, due to the exclusion of glass. This will make the millions of pounds spent to prepare the infrastructure pointless.

Why should we exclude glass from the UK's DRS?

- **It can contribute a healthy dose of logistical problems.** This is because the normal procedures of collecting, transporting and keeping the material in storage are encumbered by the heaviness of glass compared to other materials. Additionally, the fragility of glass can contribute to it becoming a health hazard for the many people who work with it.
- **Including glass can also lead to increased costs.** This is because all retailers, consumers, and companies that manage waste may need to compensate for the additional operational challenges that are created from including glass in the DRS, which would require a slightly different infrastructure and processing process. This is estimated to increase DRS implementation costs by at least £28 million according to Zero Waste Scotland.
- Following on from the previous point, if glass product prices or deposits increased as a result of more expensive infrastructure, **consumers may actually switch to purchasing more plastic based products**, leading to unwelcome consequences for our environment.
- **Including glass in the DRS can harm the profit margins of existing glass recycling systems in place across the UK.** This is because it can make the systems more prone to inefficiency, and may cause local councils to lose out on profits from reduced alternative programme usage, like that of kerbside collection. In turn, this can affect the funding for other existing waste management services.
- **Including glass in the UK's DRS can have unforeseen consequences on older people, and people with disabilities, who may find it harder to move around and carry things.** If containers must be returned to specific collection points, and there are reductions in other waste collection services, this may make it difficult for people with mobility issues to return the containers. In turn, this means that the most vulnerable populations are most likely to bear the financial brunt of the DRS.

As you can see, there are some brilliant arguments for including and excluding glass from UK's DRS. So even though including glass could offer significant environmental and economic benefits, it would be at a significant cost.

However, while the UK is split on whether we should include glass in the DRS, the clock is ticking towards the 2027 launch date. This is already the result of two delays caused by the same disagreement, with it being vital for all of the UK to adopt the scheme simultaneously to avoid any trade barriers as per the Internal Market Act which commands that all goods sold in one part of the UK must be sold and recognised in any other part. And while we debate, we can sit back and watch how pieces of plastic and fragments of glass steadily collect on our pavements, green spaces, and beaches. 97% of UK beaches are polluted with drink-related items so we need to start moving on this issue.

Whilst the debate rages on, we have looked at various schemes and the different DRS trials that were carried out.

1 The Trials.

The Digital Deposit Return System (DDRS)

One of the more significant trials of the DRS in the UK was the [Welsh DDRS Scan, Recycle, and Reward pilot in Brecon](#). This is one of the most recent trials that has published their results in April 2024, and it boasted 18,794 claimed deposit returns which adds up to more than four rewards per household over a period of 16 weeks. While this may initially seem like a small number for the duration of the project, it is important to remember that the awareness of the scheme only gradually increased, and there would have likely been higher quantities of returns over time.

The trial was declared a success, with 97.6% of all containers being returned at home being captured in the system's recycling stream, meaning there was almost an absence of any fraud and system misuse. Additionally, over half of the participants that were surveyed claimed that they would happily recommend the scheme in future.



That said, we cannot directly extrapolate the DDRS results to the DRS potential, since the DDRS was run on a reward rather than deposit basis. That is, for each container, people could receive 10p, rather than having 20p returned to them. However, the main difference between this trial and the proposed DRS, which may make it difficult to generalise the trial's success, is that the DDRS included technology that could scan and issue deposit refunds, meaning that these could be refunded without needing to go to any collection points. You could even do it at home!

Nevertheless, one of the most important findings from this trial is that more than half of the participants showed a preference for having a range of return options available to them, making the argument for adding a DRS pathway for recycling more attractive. Additionally, despite the complexities of the trial, which included more than 70 different suppliers and retailers, it was carried out surprisingly smoothly, with few complications.

Lidl's Win-Win Scheme

As a result of the delays that took Scotland's DRS implementation from being almost ready to waiting for a 2027 launch date, other organisations, like [Lidl, have begun to fill the void by piloting their own DRS schemes using the existing infrastructure they have prepared for the former.](#) It is indeed the first supermarket to begin such a pilot, which is Glasgow city-wide, and offers no restrictions on the number of rewards a single customer can accrue.



However, as with most trials, it is not exactly the same as what the UK DRS scheme would involve following the long-awaited launch. Primarily, Lidl, which launched the pilot earlier this year, has not placed a deposit of any amount on their products, instead customers can receive a reward of 5p for each in-scope container returned to an in-store reverse vending machine. This can then be redeemed against their Lidl shopping, or donated to Lidl's charity partner, the STV Children's Appeal. The best part about it is that the drinks container does not have to come from Lidl, as long as it is made out of the correct material, which currently only includes PET plastic and aluminium, and is clean and uncrushed.

Yes, just like the DRRS, Lidl's scheme is not perfectly generalisable to the proposed DRS on the basis of having a reward as opposed to deposit return foundation. Nevertheless, it can be a good way to look at the costs and benefits associated with making the choice to include or exclude glass when taken together with the findings from the DRRS, which can inform future UK DRS implementation. Unfortunately, at the time of writing we cannot yet make judgements about the scheme's effectiveness, as the trial has not been concluded. That said, estimates have suggested that the scheme is [expected to take in about 10.5 tonnes of recycling material monthly.](#) Not too shabby for just one chain.

DEFRA and DRS Based Pilots

You might, understandably, ask why we can't just trial a mini DRS, instead of extrapolating from related, but quite different schemes. I'm here to tell you that this wouldn't be possible for a number of reasons, the most important of which is that [Defra, the organisation partially behind implementing the DRS, has issued a statement that removes this possibility, regardless of the pressure put on it by other organisations like Lidl.](#)

Now, before we all gather with our torches and pitchforks, Defra might have a good point.

The thinking behind Defra's decision stems from the difficulty of implementing a pilot trial of the DRS without setting it up end-to-end, which limits the effectiveness and function of the trial. Instead, Defra recommends that the best source of information on the viability of the DRS is other countries, of which there are approximately 50, some of which have had a DRS scheme for more than a decade.

So, it might be best to take a look at what other countries have done, and how successful they've been with including or excluding glass from their schemes. But first, I believe it is important to remind ourselves of the brief – what is the problem that the DRS is trying to solve in the first place?

2 The Problem with Recycling.

The UK is a significant producer and consumer of beverages, with an estimated purchase of 31 billion containers annually. The majority of which are plastic bottles, drink cans, and glass bottles. With the recycling system that is currently in place, the UK can boast a collection rate between 70-75%, however the aim is to increase collection to a minimum of 90% to decrease the quantity of containers that reach our streets, seas, and landfills.

Perhaps the main two problems with what we are doing at the moment is that not enough trash is collected, and when it is, it is often not in the correct condition to be recycled. That is, when drinks containers that have not been rinsed out and emptied prior to recycling get collected, they end up being sent to landfill or incinerated. Worse still, a single contaminated container can disqualify the entire batch that it came in with.

So, putting a DRS into practice can mean that consumers try harder to follow recycling and deposit guidelines to ensure their deposit is returned to them, creating a cleaner waste stream by separating different types of materials at the point of return, reducing contamination, and rejection risk. Even if the consumer themselves does not return the bottle, someone else may, thus reducing littering as well.



3

What Behavioural Science Says.

As a whole, behavioural science supports the use of external financial incentives to encourage recycling and correct container disposal, with experiments and surveys finding that financial incentives greatly outweigh sustainability incentives in achieving higher willingness to return end-of-life containers and packaging, with personal internal motivation coming in as a close contender.

Meta-analyses suggest that interventions that are most likely to result in behaviour change in the realm of reducing plastic waste were communications and marketing, service provision, as well as environment and social planning, with interventions that specifically target psychological capability negatively affecting plastic waste reducing behaviours while those targeting physical opportunity and reflective motivation having the largest positive effects.

When viewed in light of this, it is no wonder that the DRS has ushered in increases in recycling and seen such popular adoption across a range of cultures, as it requires the correct infrastructure to be in place to simplify returns, which increases opportunity for returns as reverse vending machines are generally placed in strategic retail sites and points of consumption. Beyond this, the DRS offers both internal and external motivational rewards, encouraging sustainable values while financially rewarding consumers with their deposit return. Altogether this leverages both the physical opportunity and reflective motivation components of the COM-B model without directly impacting aspects of psychological capability.



Not only do DRS schemes leverage immediate positive reinforcement and elements of the COM-B model, they may also increase the perceived value of the drink containers, which may make people more likely to take care of them more and discard them less as a result of the higher attributed value. Perhaps my favourite way that DRS schemes integrate behavioural principles is by assigning accountability to each person for their drink consumption and disposal, which prevents people from neglecting resources that they perceive as shared, thereby avoiding the dreaded 'tragedy of the commons.' And finally, once a DRS becomes the norm, the behaviour of returning containers follows suit. In turn, this can help people build better disposal habits.

On the other hand, financial incentives like those used in the DRS **may carry risk of backfiring through licencing the behaviours that the incentives are trying to discourage.** In the sense that some people may feel less obligated to return a container as they have 'paid for it' with the unreturned deposit. Additionally, having to bring in containers to deposit points can backfire by introducing new friction to the recycling process, as this will necessitate people to carry and bring in their containers to different collection points. Finally, such schemes run a high risk of birthing a dependency on financial incentives to engage in recycling, which may mean that such schemes like the DRS may quickly sputter to a halt if the financial incentives are removed.

So, while due care must be taken to avoid these possible drawbacks, the larger picture suggests that the DRS can be a suitable and effective supplementary option to sustainably getting rid of drinks containers, and increasing recycling rates regardless of whether glass is included. That said, it may be better to maintain consistency in returns by including glass in the permitted materials criteria, as excluding it may lead to confusion and inconsistent norm formation, which may decrease the DRS' effectiveness as a whole.



4

The Glass is Not Always Cleaner.

So, what have other nations done, and have they made the controversial step to exclude glass from the programme? Let's take a brief look at the countries that have or have not decided to include glass.

Glass Included	Glass Excluded
Australia	Ecuador
Germany	Jamaica
Finland	Kiribati
Croatia	India
Iceland	Norway
Estonia	Singapore
Latvia	
Lithuania	
Denmark	
Poland	
Austria	
Barbados	
Luxembourg	
Malta	
Micronesia	
Netherlands	
Palau	
Romania	
Seychelles	
Slovakia	
Sweden	
Switzerland	

Conclusion

Across all countries that have adopted a DRS, regardless of whether glass was included, recycling rates have increased. However, an unwelcome pattern emerges for countries that have implemented the DRS for glass, like Germany, with glass packaging consumption rapidly decreasing, and plastic packaging showing a steep increase. This is despite some of these countries charging higher deposit amounts on PET bottles compared to glass. This gives credence to claims advocating against glass inclusion in DRS citing counter-productive responses and increases in single use plastic production.

That said, it is possible that the difference between deposit sums between glass and plastic packaging is simply not large enough, and that a larger difference may be a solution to including glass in the DRS without increasing single use plastic production.

At the end of the day, the scheme's aim is to increase recycling and the reuse of materials, so despite the substantiated improvements in recycling rates of containers following a DRS introduction, it may still be a better idea to target a reduction in consumption instead. Nevertheless, the number of countries that have included glass in their DRS suggest there may be more to the issue, and additional methods of contributing to a circular economy should not be out of the question.



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