Explanatory Memorandum for the Deposit Scheme for Drinks Containers (Wales) Regulations 2026

This Explanatory Memorandum has been prepared by the Local Government, Housing, Climate Change and Rural Affairs Group and is laid before Senedd Cymru in conjunction with the above subordinate legislation and in accordance with Standing Order 27.1

Cabinet Secretary's Declaration

In my view, this Explanatory Memorandum gives a fair and reasonable view of the expected impact of the Deposit Scheme for Drinks Containers (Wales) Regulations 2026. I am satisfied that the benefits justify the likely costs.

Huw Irranca-Davies MS
DEPUTY FIRST MINISTER AND CABINET SECRETARY FOR CLIMATE CHANGE AND RURAL AFFAIRS
12 February 2026

PART 1

1. Description

The Deposit Scheme for Drinks Containers (Wales) Regulations 2026 ("the Regulations") establish a Deposit Return Scheme ("DRS") in Wales for in-scope drinks containers. These include single-use closed bottles and cans made from PET[1] plastic, steel, glass or aluminium that contain between 150ml to 3 litres of liquid and are supplied for consumption in Wales. HDPE[2] bottles (usually used to supply milk), cartons and plastic pouches/sachets are not included under the DRS.

From 1 October 2027, a person who is supplied with a drink in a container that is in-scope of the 2026 Regulations must pay a deposit to the person who supplied that container. The person who returns the container to a designated point will then be entitled to redeem the deposit or elect that an amount equivalent to the deposit is paid to a charity.

The purpose of the DRS is to support the transition to a circular, zero waste and net zero carbon Wales. In doing so it will build on Wales' recycling record by further increasing the quantity and quality of recycling of in-scope materials, reduce littering and fly-tipping, and importantly, phase in the reuse of drinks containers. The commitment to implementing a DRS in Wales is set out in the Welsh Government's circular economy strategy, *Beyond Recycling,* the Net Zero Wales emissions reduction plan and is a key part of the implementation of the Welsh Government's Programme for Government commitment to Extended Producer Responsibility.

The 2026 Regulations provide for the appointment of a scheme administrator to operate the scheme, referred to as the Deposit Management Organisation (DMO) and set out:

- the scope of the DRS (as described above);
- the role of retailers, drink producers and suppliers;
- the functions of the DMO;
- a four year transition period during which in-scope glass drinks containers will be subject to a 0p deposit and will not be required to comply with DRS labelling requirements, and
- the monitoring, compliance and enforcement measures that will be in place to support the running of the scheme, including the roles of Welsh Ministers and regulators.

The 2026 Regulations mandate that the DMO must make arrangements to recycle drink containers that have been returned. From year four of the scheme onwards, the DMO will also be under a duty to make arrangements for the reuse of drink containers that have been returned and are capable of reuse.

DRSs are well-established globally. Whilst the core design and scope can vary, well-functioning schemes achieve collection rates of 90% or higher. These regulations put in place the legislative framework for a DRS covering the recycling and reuse of drinks containers, encompassing a collection target of 95% on the DMO by 2032 and incorporating the collection of drink containers that are capable of reuse from 2031

[1] polyethylene terephthalate
[2] high-density polyethylene

onwards. In making provision for reuse, the 2026 Regulations cover the central importance of reuse as a core element of the scheme and set an initial target of 5%. However, the Regulations do not make detailed provisions regarding reuse at this point, which have been the subject of the recent public consultation. These elements will therefore need to follow through further amendments to the 2026 Regulations in the next Senedd, to include detailed provisions relating to reuse and reusable containers in the scheme.

2. Matters of special interest to the Legislation, Justice and Constitution Committee

The United Kingdom Internal Market Act (UKIMA)
On 13 October 2025, Julie James MS, Counsel General and Minister for Delivery, wrote to Mike Hedges MS, Chair of the Legislation, Justice and Constitution Committee, outlining the Welsh Government's legislative approach following the UK Government's review of the United Kingdom Internal Market Act 2020 ('UKIMA'). The letter is available here.

The Welsh Government has consistently and clearly set out its opposition to UKIMA, which places constraints on devolved competence and risks undermining the policy intent of devolved legislation. The Welsh Government continues to advocate for its repeal and replacement with a system based on Common Frameworks. While the UK Government has not accepted this position in full, its review of UKIMA in 2024–25 committed to a renewed focus on Common Frameworks and improved processes for agreeing exclusions. This included a commitment that all exclusions which have been agreed by all governments through a Common Framework will be implemented. While the Welsh Government continues to advocate for fundamental reform of the Act, the outcome of the review offers an opportunity to demonstrate how Common Frameworks can support a coherent UK internal market while respecting devolution.

Whilst a consistent approach to DRS aligned to the scope previously collectively agreed across the UK would have been preferable; the previous UK Government took the decision to diverge away from the agreed four-nation approach, by excluding glass from their DRS. In contrast, Wales has maintained the commitment to the agreed scope. This reflects the clear outcome of the joint consultation and the Welsh Government's commitment to ensuring a DRS will deliver benefit against Wales' baseline performance. With Wales already delivering a recycling level which is second in the World, the inclusion of reuse is crucial in order to ensure that the scheme will support Wales' continued progress, building upon the success in recycling.

Continuing the collaborative engagement with the UK Government and other Devolved Governments and in line with the outcome of the UK Government's review of UKIMA, the Welsh Government has proposed a UKIMA exclusion for the inclusion of glass and reuse in the Welsh DRS, through the Common Frameworks process.

The Welsh Government supports a well-functioning UK internal market which ensures that arrangements respect devolved powers and the particular needs and priorities of Wales. International examples show that successful schemes often vary in scope within a single market, with the vast majority including glass as standard. In developing the approach within the Regulations, the Welsh Government has drawn on best practice from countries such as Finland, Estonia, Latvia, Ireland, Germany, Denmark, Lithuania, the US, Canada, and Australia.

Innovation is key to a successful internal market and for the UK's ongoing global competitiveness. Wales' leadership - building on its world-class recycling and pioneering initiatives such as the plastic bag levy - not only delivers benefits to Wales but offers benefits across the UK. By pioneering reuse within the UK, drawing from international best practice, this can help inform approaches across the UK. It also brings significant economic opportunities in relation to the creation of green jobs and reducing material costs for producers through improved resource efficiency.

Relation to other SIs
These Regulations make provision for the DRS in Wales and will sit in parallel with the schemes developed by the other UK nations' governments. Whilst the scheme has been developed to deliver in a Welsh context against Wales' baseline recycling rate, including glass within its scope, the aim is for an aligned 1 October 2027 launch date to support interoperability across the UK.

The Producer Responsibility Obligations (Packaging and Packaging Waste) Regulations 2024, which have been developed on a UK-wide basis, place obligations on producers of packaging. Such obligations however do not apply in respect of drinks containers within the scope of DRS. Whilst glass drinks containers are currently in scope of Extended Producer Responsibility (EPR) for packaging, this will only apply until the point at which a DRS is operational in Wales. Products will therefore be obligated under either the DRS or EPR for packaging, but not both. However, if DRS is not operational by January 2028, then containers will fall within the scope of the Producer Responsibility Obligations (Packaging and Packaging Waste) Regulations 2024 by default.

Consequential to the 2026 Regulations further legislation is proposed in respect of permitted development rights for reverse vending machines.

3. Legislative background

The Welsh Ministers make this instrument in exercise of powers conferred by sections 54 and 143(1) of, and Schedule 8 to the Environment Act 2021 ("the 2021 Act").

Schedule 8 to the 2021 Act provides the Welsh Ministers with powers to make regulations establishing deposit schemes for the purpose of:

- sustaining, promoting or securing an increase in the recycling or reuse of materials, and
- reducing the incidence of littering or fly-tipping.

The powers provided by the 2021 Act are new powers in relation to the introduction of a DRS and are used to establish a DRS in Wales for the first time.

Regulations made under section 54 and 143(1) of, and Schedule 8 to the 2021 Act are subject to the Senedd approval procedure by virtue of sections 54(5)(a) and 143(6)(b) of the 2021 Act.

4. Purpose and intended effect of the legislation

The purpose of the 2026 Regulations is to introduce a DRS in Wales to support the transition to a circular, zero waste and net zero carbon Wales. In doing so it will build on Wales' recycling record by increasing the collection rates of drinks containers, significantly reducing litter, expand opportunities to reprocess high quality materials and phase in the reuse of drinks containers. This will result in carbon emission savings and support the transition to a circular economy by moving material up the statutory waste hierarchy and keeping materials in use for longer.

The DRS aims to achieve these policy objectives by providing consumers with a financial incentive to return drinks containers for recycling or reuse. The approach of establishing a DRS is common practice globally and has been proven to be effective across a range of systems. International experience indicates that schemes, covering single-use or incorporating reusable formats, commonly achieve collection rates of 90% or higher and result in a significant decrease in the amount of littered drink containers, with reductions ranging from 60% to 80%.

The 2026 Regulations provide for the appointment of the Deposit Management Organisation (DMO). This is a non-profit private sector body which will operate the scheme and will place obligations on producers and suppliers of in-scope drinks containers, and on groceries retailers in respect of accepting the return of deposit items. The 2026 Regulations makes provision for monitoring and enforcement activities by Natural Resources Wales (NRW) and local authority trading standards departments. In doing so, the scheme implements the 'polluter pays' principle, with producers being responsible for costs associated with the management of the waste relating to the products they place on the market.

The 2026 Regulations provide for civil sanctions where a scheme drinks producer, supplier, retailer or the DMO has contravened any requirement by imposing financial penalties and notices to comply. Offences have been created where a person fails to comply with a civil sanction or obstructs an enforcement authority. This approach ensures that persons can be held accountable for supplying in-scope drinks without meeting the requirements of the scheme, such as adding a deposit, ensuring the drinks containers carry the correct labelling and information is correctly displayed to consumers. The
DMO is held to account under the 2026 regulations by NRW to ensure that it operates effectively and meets its collection targets, and that it complies with its published operational plan.

The DRS will add a refundable deposit to all single-use drinks containers, which will increase the initial upfront cost of products to consumers and create a strong financial incentive to return containers for collection by the DMO. This is a proven way to boost consumer engagement, drive behaviour change, reduce littering, and significantly improve on the go recycling. A deposit encourages returns to designated collection points and evidence suggests that knowing a container could be reused rather than recycled may further motivate participation. Public consultation has showed strong support for return-for-reuse models.

A critical role of the DMO is to set the deposit at a level which achieves the scheme's collection targets. However, it is important to note that there is a four year transition period,

from 1 October 2027 to 30 September 2031, for glass drinks containers. During this time a 0p deposit and no labelling requirements will apply to such containers. This approach provides industry with additional time to adapt operational and logistical arrangements for glass. While this means the financial incentive for glass returns will not apply immediately, the transitional period is designed to ensure the smooth initial implementation and phasing in of the requirements, without undermining the objectives and ability of the scheme to deliver in a Welsh context.

Inclusion of glass drinks containers
The inclusion of glass drinks containers is in line with the Welsh Governments long term policy, which has been consistent throughout, and is fully in line with the overwhelming conclusion of the consultations previously undertaken with 86% supporting the inclusion of glass within the DRS. This is also in line with vast majority of international schemes and will support the drinks sector in their transition to net zero carbon emissions.

Including glass within the scope of Wales' DRS is key to the transition to reuse as a core part of the DRS, with glass being the most widely used material for reuse in international schemes. It also supports glass recycling - by improving on the go recycling - whilst tackling litter. With surveys by Keep Wales Tidy in 2023-24 showing drinks-related litter on 43.6% of Welsh streets, with the presence of glass bottles more than doubling in four years. Glass litter is also more costly to collect, with broken glass posing a growing safety risk - especially in parks, play areas, and coastal locations. The inclusion of glass is therefore also key to tackling litter within our communities and helps to ensure Wales will derive the maximum benefit from the scheme across the Well-being Goals within the Well-being of Future Generations (Wales) Act 2015.

Following extensive engagement with industry, the Welsh Government has adapted the scheme to adopt a phased approach to glass drinks containers, recognising the added complexity following the UK Government's change of scope. This will see monetary deposits and labelling requirements in respect of glass drinks containers being brought in after the transition period of the DRS becoming operational. During this transitional period, a deposit of 0p will apply to glass drinks containers and no labelling requirements will apply to such drinks containers. Following this transitional period a monetary deposit and the DRS labelling requirements will apply to glass drink containers. All other in-scope drink containers (made from PET plastic, aluminium and steel) will attract a monetary deposit value from day one, in line with the schemes in the other UK nations.

This will:

- **Avoid unintended consequences:**
  The exclusion of glass from the scheme in England and Northern Ireland - and more recently Scotland gives rise to potential risks of fraud and supply chain disruption. The phased approach to introducing a monetary deposit and labelling requirements mitigates these risks while ensuring the scheme can still deliver benefits against Wales' already high recycling rates.

- **Ensure the return system is geared up for reuse**:
  With glass included as part of the scheme from the outset, it will not only ensure that the scheme will be able to tackle the on-the-go recycling and littering of glass drinks containers from day 1 but will also ensure that the infrastructure will be ready for the

phasing in of reuse requirements. The transition period from 2027 to 2031 will also allow producers, retailers and the DMO to pilot and prepare for the handling, labelling and logistics of including reuseable drink containers in the DRS.

- **Support clear communications and behavioural change:**
  Including all materials from the outset allows clear communications citizens in Wales that all drinks containers can be taken back to return points under the scheme. This means that whilst there will not initially be a financial incentive, it will provide a network of recycling points for drinks that are consumed on-the-go. This supports both behavioural change from the outset and system readiness for the phasing in of requirements beyond the transition period.

- **Provide operational and labelling flexibility:**
  The transitional period provides a grace period for producers and retailers to adapt labelling, production and distribution systems.

Reuse

As Wales is already a world leader in recycling, there is a crucial need to ensure that the bringing of a DRS will deliver benefit in a Wales context and ensure it does not detract from the progress made already as a result of the commitment shown by Welsh citizens. Using the DRS to phase in reuse, in line with the world's best schemes already in place, will ensure further progress by keeping containers in use, significantly reducing packaging waste, reducing the need for the extraction of raw materials and the impact it causes, lower carbon emissions and make our communities cleaner by cutting down on litter.

A DRS that incorporates both recycling and reuse can improve the availability of high-quality recycled material back into the economy, whilst also significantly improving resource efficiency, improving the resilience of supply chains, reducing material costs for producers and creating opportunities for green jobs as part of the transition to a circular economy. Therefore, the DRS has the potential to unlock significant green growth opportunities. Independent analysis suggests that the shift to a circular economy could generate up to £3.8 billion[3] in savings for the Welsh economy, while creating high-quality green jobs, fostering innovation, and strengthening resilience in key sectors such as logistics and manufacturing - including within the drinks industry. Consequently, it therefore not only delivers environmental benefits that are crucial to tackling the climate and nature crisis but also brings significant economic opportunities and competitiveness benefits in a decarbonising global economy.

Under paragraph 2(1) of Schedule 1 to the Waste (England and Wales) Regulations 2011, the Welsh Ministers are under a legal duty to apply the waste hierarchy in waste prevention and management policy. Therefore, where feasible, the Welsh Ministers must give preference to reuse over recycling as reuse leads to greater environmental benefits compared to recycling alone. Reuse can also deliver resource efficiency benefits including cost savings for drinks producers due to the high costs associated with the purchasing of new containers.

The 2026 Regulations make provision for a reuse compatible DRS by requiring the DMO:

[3] Levelling Up Through a More Circular Economy Final Report, Table 7, page 18, Scenario 3: Transformation, Wales GVA gain subtotal LEVELLING UP THROUGH A MORE CIRCULAR ECONOMY__2.pdf

- from October 2031 onwards to meet a collection target for drinks containers that are capable of reuse.

These provisions establish reuse as a central component of the scheme, which will be a key consideration when developing the infrastructure needed for the scheme. This will support the transition to reuse through the investment into reuse ready infrastructure from the commencement of the scheme. Including reuse infrastructure from day one avoids significant additional cost or sunk costs for industry as it avoids having to replace Reverse Vending Machines before the end of their service lifetime and enables Wales to phase in reuse efficiently following the transition period.

Coming into force
Certain provisions of this instrument (in respect of appointment of the DMO and associated provisions) come into force on the day following that on which the 2026 Regulations are made. Apart from the duty on the DMO to make arrangements to reuse drink containers that are capable of reuse, which is due to come into force on 1 October 2031, the rest of the 2026 Regulations come into force on 1 October 2027 which is the date from which the DRS will be operational. This aligns with the date for the implementation of schemes in the other nations of the UK.

5. Consultation

Formal consultation

The Welsh Government has undertaken several public consultations relevant to this scheme. Along with the Northern Ireland and UK governments, two joint consultations were undertaken in 2019 and 2021. The initial consultation was open for 12 weeks from 18 February 2019 and set out that the aim of introducing a DRS were to:

- reduce the amount of littering;
- boost recycling levels for relevant material;
- offer the enhanced possibility to collect high quality materials in greater quantities;
- promote recycling through clear labelling and consumer messaging;
- incentivise moves to push more material up the waste hierarchy and move towards a more circular economy.

The governments' response to this consultation was published in July 2021. The consultation received 1,180 responses and was met with wide support, with 84% of respondents agreeing with the principles of a DRS.

A second consultation was launched on 24 March 2021 and was open for 10 weeks. This consultation set out the governments' policy positions on the DRS and sought further information on outstanding areas of design. The consultation received 2,590 responses from a range of stakeholders including local government bodies, non-governmental organisations, retailers, producers and waste management companies. The responses demonstrated continued support for the introduction of a DRS, with 83% of responded supporting the implementation of a DRS.

The 2021 consultation set out an agreed scope of materials across the three nations, incorporating: PET plastic and glass bottles, steel containers, and aluminium cans. It being proposed that this scope would apply across all three nations, which mirrored the scope of the Scottish scheme being brought forward separately.

The consultation documents and a summary of the responses are available at:
2019:

- Consultation on introducing a Deposit Return Scheme in England, Wales and Northern Ireland
- Introducing a Deposit Return Scheme (DRS) in England, Wales and Northern Ireland: Executive summary and next steps - GOV.UK
- Consultation on introducing a DRS: summary of responses

2021:

- Consultation on Introducing a Deposit Return Scheme in England, Wales and Northern Ireland Second Consultation
- Introducing a Deposit Return Scheme for drinks containers in England, Wales and Northern Ireland - government response
- Consultation Response Analysis: Introducing a deposit return scheme in England, Wales and Northern Ireland

The commitment to implement a DRS was also included in the Beyond Recycling consultation.

On 18 August 2025, the Welsh Government launched a further consultation at a stakeholder event at in the Factory in Porth attended by 60 stakeholders on *Delivering the Best DRS for Wales*. The consultation outlined the phased approach to implementation - including transition arrangements such as a zero deposit for single-use glass containers. The consultation included the:

- Roadmap to reuse
- Regulatory framework and minimum standards
- Support for transition
- Return rates and points
- Handling and logistics
- Deposit levels
- Economic and community benefits

In total there were 287 replies to the consultation.

Whilst the majority of the consultation relates to provision to be made in a subsequent SI, the responses to the consultation have been considered to inform the collection target for the DMO included under the 2026 Regulations. The remaining responses to this consultation will be used to inform subsequent legislation including detailed provisions regarding reuse which is expected to be brought forward in the next Senedd term.

Informal consultation

In addition to formal consultations, ongoing industry engagement has been undertaken throughout the development of the approach to DRS including sessions held jointly with all UK nations, which have informed the development of the DRS policy in Wales. This includes jointly undertaking:

- **Statutory Instrument engagement (February - May 2023):** two versions of the UK Government's draft statutory instrument, which was developed with the Welsh Government and informed these regulations, were shared with over 40 industry stakeholders under non-disclosure agreements. Stakeholders provided written comments, had 1:1 discussions and were involved in a hybrid workshop that was delivered by third party consultants.
- **Deposit Management Organisation workshop (June 2023):** held with over 50 organisations covering producers, retailers, material manufacturers, other DRS operators and infrastructure firms, and local government.
- **Interoperability workshop (August 2023):** conducted with England and Northern Ireland and industry to gather feedback on joint policy positions.
- **Business as usual engagement**: regular engagement with industry undertaken through quarterly DRS industry forums, sector specific sub-groups and individual meetings.

Since November 2024, Welsh Government has also:

- **undertaken a comprehensive programme of engagement sessions** in 2025 including 16 stakeholder sessions - attended by over 270 participants from across industry, retail, local government and environmental sectors.
- **Undertaken a successful DRS conference** in Llandudno in March 2025.
- **held roundtable meetings** chaired by the Deputy First Minister and Cabinet Secretary for Climate Change and Rural Affairs with producers and retailers in October 2025.
- **undertaken a full public consultation** from April to July 2025 to determine the Permitted Development Rights for Reverse Vending Machines (RVMs). However, given the limited time remaining in the current Senedd term, the RVM element of this consultation is expected to be taken forward in the next Senedd term.

Integrated Impact Assessment

An Integrated Impact Assessment (IIA) has also been conducted for Wales' DRS. Sections 1 and 8 will be published. The IIA includes assessments of equality, children's rights, and socio-economic impacts. Links to these will be provided upon publication.

Justice Impact Assessment

The 2026 Regulations include offences, sanctions and fines.

A Justice System Impact Identification (JSII) for has been completed for 2026 Regulations and as it is expected that there will be low to no actions of enforcement required it is anticipated that there will be low if any impact on the justice system in Wales. The JSII has been agreed by the Ministry of Justice as having nil/minimal impact on the justice system. Some Regulations have been reordered, and some targets have been changed since the

JSII was agreed by the Ministry of Justice. However, there have been no changes or additions to civil sanctions or offences in the Regulations.

PART 2 – REGULATORY IMPACT ASSESSMENT

Regulatory Impact Assessment (RIA)

1. Options

1.1 As set out in the Explanatory Memorandum, the policy objective is for the introduction of a deposit return scheme (DRS) for drinks containers to support Wales' transition to a circular, zero-waste and net zero carbon economy. In doing so, it will increase the capture, reuse and high-quality recycling of the material collected, improve resource efficiency and the resilience of supply chains and reduce litter. In supporting the phasing in of reuse it will help accelerate Wales' transition from single-use packaging and move material up the statutory waste hierarchy.

1.2 An initial impact assessment was published in 2021 on behalf of the three nations, Wales, England and Northern Ireland, and assessing four policy options:

- **Option 1 – Do nothing**
- **Option 2 – Introduce an 'All-In' DRS** to cover polyethylene terephthalate (PET) plastic bottles, steel cans, aluminium cans and glass bottles, with no restriction of the size/format of drinks containers in-scope
- **Option 3 – Introduce an 'On-the-go' DRS** to cover PET bottles, steel cans, aluminium cans and glass bottles up to 750ml in size and sold in single format containers.
- **Option 4 – Introduce 'All-in' DRS with no glass intake**. DRS to cover PET bottles, steel cans and aluminium cans, with no restriction of the size/format of drinks containers in-scope

1.3 The 2021 impact assessment assessed the costs and benefits of a DRS across the UK as a whole. This approach was taken at the time as all four nations were proceeding with an aligned scope and in addition much of the underlying data was based on UK-wide data as part of the existing producer responsibility scheme for packaging. The 'all-in' DRS was found to have the highest net benefit (present value) and benefit to cost ratio (BCR).

Table 1. Summary results from previous three nations impact assessment

	Option 2 – 'All-In'	Option 3 – 'On the Go'	Option 4 – 'No Glass'
Net Present Value (NPV)	5,885	282	3,582
Total cost Present Value (PV)	6,346	3,503	5,491
EANDCB[4] (at 85% DRS collection rate)	266	183	270
Benefit Cost Ratio	**1.93**	**1.08**	**1.65**

[4] Equivalent Annual Net Direct Cost to Business

1.4 Reflecting the outcome of the joint consultation, the Welsh Government has proceeded with the 'all-in' material scope of PET bottles, steel cans, aluminium cans and glass bottles, whilst refining the policy details as explained below.

Short list of options

Option 1: Do nothing (i.e. business as usual)

1.5 This is the option against which the preferred option is assessed, and as such the additional costs and benefits are zero. In the absence of government intervention, drinks would continue to be consumed with no financial incentive to return the empty container. Drinks containers will continue to be deposited in recycling or residual waste bins at the same rate, with some being littered. Businesses will continue to pay producer fees for glass drinks containers under the packaging extended producer responsibility (pEPR) scheme, as drinks containers sold in Wales will not be part of a deposit scheme and so will not qualify for the exemptions set out in the pEPR regulations. Furthermore, it should be recognised that in this scenario, PET, aluminium and steel drinks containers sold in Wales would lose their current pEPR exemptions, including exemptions from administration and disposal fees, after the backstop written into the pEPR regulations.

1.6 Importantly, as a DRS will launch in October 2027 in Scotland, England and Northern Ireland, having no DRS in Wales will impact upon the functioning of those schemes. This could lead to confusion for businesses, a lack of legal clarity and potentially impact the performance of DRS in other UK nations. It would also create a significant fraud risk - as for example drinks containers with the same barcode could be purchased in Wales where there is no deposit and returned to a DRS in another UK nation fraudulently redeeming a deposit. Negating this fraud cost is quantified as one of the benefits of implementing a DRS in Wales in Policy Option 2.

Option 2: Implement a deposit return scheme in Wales (preferred option)

1.7 The preferred option is to introduce legislation to establish a deposit return scheme to address the environmental impacts from drinks containers and deliver environmental and economic benefits to Wales.

1.8 A DRS must however deliver high-performance to improve upon existing recycling rates in Wales, which is recognised as second in the world. The Wales DRS therefore includes PET, steel, aluminium and glass drinks containers, the phasing in of reuse, and sets the following performance targets:

- collection rate targets of 70 percent in 2028 and 80 percent in 2029 for all deposit items other than glass
- collection rate target of 80 percent in 2030, 85 percent in 2031, and 95 percent in 2032 for all deposit items including glass
- a collection for reuse target of 5 percent for reuse for 2031, with the 10% level having been consulted upon having been revised to account for the feedback from the consultation and reflecting industry's commitment to undertaking reuse trials.

For the purposes of the collection rate targets in 2030, 2031 and 2032, the quantity of containers returned must include:

- at least 85 percent of the deposit item made wholly or mainly from PET, and
- at least 85 percent of the deposit item made wholly or mainly from any other in-scope material

The DRS in Wales will therefore support the phasing in of reusable containers that are washed and refilled at scale. This reflects global best practice and ensures that the scheme will deliver in a Welsh context and support the transition to a circular economy.

1.9 Groceries retailers who supply deposit items to customers are required to operate a DRS return point. “Groceries retailer” means a supermarket of any size, a grocery store, a convenience store, or a newsagent but does not include takeaway services, coffee shops, hospitality venues, recreational facilities such as a community centre, sports centre or gym selling food and drink for consumption off or on the premises, or retail premises located within the ground of schools, higher education institutions, and hospitals. Online retailers are not required to offer a take-back service. Other return point exemptions apply including mobile premises, vending machines, on-sale premises, and for small urban stores.

1.10 Whilst hospitality venues are not required to operate a DRS return point, they will still be included in the DRS. Venues selling drinks for consumption on the premises can however decide not to charge the deposit to their customers. They will not need to act as a general return point and will be provided with a collection service for empty drinks containers. Hospitality venues can choose to collect the empty drinks containers from their premises, or they could pour drinks into glasses when serving customers and so retain the empty containers. The empty containers will be returned to the Deposit Management Organisation (DMO) so that venues can redeem the deposits.

1.11 In response to industry feedback on the aspects of DRS which vary within the UK, to ensure interoperability the Welsh Government has committed to:

- launching the DRS in Wales in October 2027, to align with the launch of the schemes in the other UK nations
- no deposit being charged on glass containers as a transitional measure until October 2031
- the labelling requirements not being applied to glass containers for the transition period
- the gradual phasing in of reuse, commencing with a 5 percent target in 2031 and reflecting industry’s commitment to reuse trials.

1.12 It should be noted that DRS regulations permit a cooperative and shared approach to reverse vending machines (RVMs) and do not mandate a DRS collection system that relies solely on retail return points. A hybrid approach could be implemented, for example combining retail return points with kerbside collections of DRS materials from households. This is not a separate policy option, but a way of implementing the given policy. The Welsh Government preference is for such a hybrid approach, building on the existing high-quality recycling collections run by local authorities and

established recycling value chains to deliver the most cost-effective and carbon-efficient outcomes for Wales.

1.13 This impact assessment first explores the costs and benefits of a solely return-to-retail implementation of the DRS regulations, followed by the Welsh Government's preferred option of a hybrid collection system.

2. Costs and benefits of the return-to-retail implementation option

Approach

2.1 The cost-benefit analysis draws upon a body of research to assess impacts for the DRS in Wales. The approach builds upon the previous joint impact assessments published in 2021 and subsequent impact assessment by Defra in 2024, noting that there are differences in these studies due to the differing geographic scope. A key feature of the Wales DRS is also the Welsh Government's commitment to reuse, which is also not reflected in the Defra impact assessment. The Wales RIA has been further informed by desk-based research and research of global schemes, including those where reuse is an integral part of schemes.

2.2 Results are presented in 2025 prices with 2026 as the present value base year. Historic costs have been inflated to 2025 prices using the HM Treasury GDP deflator series. The policy appraisal period is 10 years, to capture one year administration costs for the Deposit Management Organisation (DMO) in setting up the scheme and then nine years of scheme operation. A discount rate of 3.5 percent was used as recommended in HM Treasury Green Book guidance.

2.3 Capital expenditure (capex) has been annualised over the expected lifespan of each asset[5]. This ensures that one-off investment costs, such as the purchase of machinery, are suitably apportioned over the policy appraisal window and reflects how industry typically accounts for such costs. Model results are generally presented to two or three significant figures or one decimal place for ease of reading and comparison.

Counterfactual / baseline

Deposit items placed on the market (POM)

2.4 Defra (on behalf of England, Northern Ireland, and Wales) commissioned Valpak to appraise the number of products and volume of materials placed on the market (POM) in 2022. POM data describes the weight, size, material, and sale format of drinks containers sold in the UK and has been assumed to reflect the number of deposit items that will be placed on the market in 2027 onwards. The assessment assumes consumption patterns across the UK are broadly similar and that the share of UK units placed on the market in Wales is proportionate to Wales' population share. Summary POM data is shown in Table 2.

[5] It is acknowledged this approach is not in line with the treatment of capital expenditure set out in HMT Green Book. However, the lifetime costs of the capital assets are not expected to be materially different when amortisation is compared to outright purchase and so this is not expected to have a significant impact on the overall results of the analysis.

Table 2. Overview of the assumed number of deposit items placed on the market in Wales

Container type	Percentage of deposit items	Number of deposit items (full year)	Av weight per container (g)	Total weight (T/yr)
Glass bottles	17%	247,557,375	333	82,510
PET bottles	38%	550,097,881	33	18,039
Steel & aluminium cans	45%	641,797,465	14	9,279
Total	**100%**	**1,439,452,722**	**-**	**109,827**

Recycling rates

2.5 The baseline option analysis was undertaken prior to the implementation of waste separation requirements on occupiers of non-domestic premises and waste collectors in Wales (known as the Workplace Recycling Regulations). The benefits of increased recycling rates of in-scope drinks containers in non-domestic waste streams are therefore only accounted for in the DRS RIA (rather than the Workplace Recycling RIA) to avoid double counting.

2.6 The baseline recycling rate of each material stream are estimated as follows: 90 percent glass bottles, 72 percent PET bottles, 84 percent cans, accounting for aluminium recovered from incinerator bottom ash (IBA). It is assumed that these will continue to increase steadily, in line with the 2050 zero waste target in the national Beyond Recycling Strategy and driven by the updated Collections Blueprint 2025. By 2035, it is assumed the recycling rate of each material stream will have reached: 94 percent glass bottles, 82 percent PET bottles, 90 percent cans. However, these modelled trajectories are based on a linear transition for each material to zero waste by 2050, but as these materials are easily collected and recyclable, in reality as the aim will be to improve their recycling rate at a faster pace the rate in 2035 is likely to be higher.

Expected costs and benefits of the preferred option

Approach and assumptions

2.7 System costs estimated in the year 2027 reflect that the scheme will only be operating for three months of that calendar year.

2.8 The DMO will set the deposit value, which is modelled at a flat rate of 20p per unit with no variation for material or size of container. Kantar research emphasised the need for the deposit level to strike a balance between being high enough to motivate people to use the scheme but not so high as to influence affordability. An effective deposit level was typically seen to be around 15p to 25p.

2.9 Collection rate targets are set as described above, with glass included in the collection rate targets from 2030 onwards and reaching 95 percent by 2032. This aligns with high-performing international examples of DRS, such as Germany,

Norway and Lithuania with return rates of 98 percent, 92 percent and 92 percent respectively. Ireland achieved 76 percent in the first year of operations.

2.10 During the 0p deposit transitional period for glass containers, whilst there will be no financial incentive for citizens to return empty containers to DRS return points, they will effectively act as a network of additional 'on the go' recycling points and cater for glass being returned when people are returning other DRS materials in the new scheme. For the purpose of the RIA, it has been conservatively assumed that 10 percent of in-scope glass containers placed-on-market are returned to DRS return points up until 2030 and that the remaining 90 percent are collected and managed through existing services such as household kerbside collections by local authorities.

2.11 The collection rate targets for years 2030 onwards apply to all deposit items including glass. It is assumed that in 2030 and 2031 the overall collection rate target is met by leading with a higher collection rate of PET and Cans and an increasing contribution from glass over time. The financial deposit on glass is raised in October 2031, further supporting high collection rates. The system modelled therefore meets the overall targets and the material-specific targets for years 2030, 2031 and 2032. The material flows do not account for DRS system losses outside of the scope of Wales, such as material moving over the border and so not being captured, except with regard to cross-border fraud risk which is discussed in detail below.

2.12 Reuse is a central part of the scheme in Wales and will be supported by an initial collection target for reuse with the future pathway informed by the responses to the public consultation. The model assumes an annual increase in reuse to achieve 15 percent by 2032, ultimately rising to 30 percent reuse in 2035, as shown in Table 3. This being a level of reuse which is already being exceeded by established international schemes.

Table 3. DRS drinks POM in reusable containers

	2027	2028	2029	2030	2031	2032	2033	2034	2035
Place on Market (POM) in reusables	0%	0%	1%	1%	5%	15%	20%	25%	30%

Scheme costs

2.13 The following section describes costs that will be on the balance sheet of the appointed DMO. Costs incurred in retail are included here because retailers will be compensated via handling fees paid by the DMO on a per-item basis.

Return point infrastructure costs

2.14 The majority of in-scope drinks containers are expected to be returned via a Reverse Vending Machine (RVM) located in or outside of a groceries retail store. This network of RVMs will be supplemented by manual return points in convenience stores and other shops where floor space is constrained.

2.15 Return point costs (including the cost to purchase RVMs) will be incurred by retailers and reimbursed by the DMO via retailer handling fees (a per container fee) and are therefore deemed to be a scheme cost.

2.16 The number of grocery stores in Wales is shown in *Table 4*. The number of supermarkets has been taken from the Institute of Grocery Distribution (IGD) Retail Analysis for 2025 UK grocery store numbers. The number of convenience stores has been taken from the Association of Convenience Stores: The Welsh Local Shop Report 2025, with forecourts and symbol group stores (e.g. SPAR) included in the small convenience stores category.

Table 4. Number of grocery stores in Wales

Store type and size	Stores in Wales	% split
Small convenience stores <2000 SqFt	2,500	69%
Convenience stores >2000 <3000 SqFt	540	15%
Medium supermarkets 400-2500 m2	420	12%
Large supermarkets >2,500 m2	160	4%
Total	**3,620**	**100%**

2.17 Urban grocery stores that are smaller than 100m^2 will be automatically exempt from the requirement to operate return points to recognise the space limitations at these stores. This approach builds on learning from the retailer exemption applications for Scotland's 2023 planned implementation, including resource requirements to process exemptions, and the coverage of return points required to ensure convenience for consumers returns. The definition of urban is taken from the 2011 ONS rural/urban classification and covers populations of 10,000 or more people.

2.18 GIS mapping analysis was used to estimate the number of small groceries stores that will be exempt in Wales. Food shop location data was matched with buildings footprint data to estimate that approximately 22 percent stores in Wales will be exempt from providing a return point.

2.19 It has been assumed that small convenience stores (i.e. rural small convenience stores and urban small convenience stores that are larger than 100m^2) will operate manual return points, and larger convenience stores (assumed to be 2000 square feet) will have single standalone RVMs.

2.20 The DRS regulations also permit a cooperative or shared approach to RVMs and the use of the public estate to provide additional flexibility. Whilst this has not been reflected in the assumptions for the cost-benefit analysis, this flexibility will be able to be used to maximise the scheme benefits whilst optimising for cost efficient performance. Additionally, there is the ability to introduce a hybrid collections approach by combining a retail and kerbside DRS collection service and this explored further below in the scenario analysis.

2.21 It is assumed that supermarkets will provide RVMs of different sizes and capacities depending on the store size. Large supermarkets will provide high-capacity return points with several RVM infeeds which connect to back of house storage. Medium supermarkets will have two standalone RVMs.

2.22 The size profile of supermarkets was estimated from published supermarket annual reports. The required annual throughput capacity of RVMs in Wales was used to estimate the size profile of stores that would have small, medium and large RVMs at their return points.

2.23 We anticipate that most small RVMs will be located internally within stores, whilst some larger stores might locate RVMs externally, such as in car park kiosks.

2.24 Some smaller food stores and corner shops may not be able to accommodate an RVM due to a lack of floor space. These retailers will be expected to offer consumers a manual take-back service.

2.25 Table 5 summarises the anticipated number of return points in Wales.

Table 5. Estimated number of return points that will operate in Wales

Return point type	Return point size	Number of return points in Wales
RVM	Small	540
	Medium	420
	Large	160
Manual	Small	1,700

2.26 RVM costs have been derived from engagement with the leading manufacturers. Return points must be capable of accepting all DRS items and so it is assumed that RVM models are chosen that work with reusable drinks containers and have a soft drop function to prevent glass breaking. Table 6 shows the RVM cost estimates that have been used in the RIA modelling.

Table 6. One-off costs per retail store hosting RVMs (excludes VAT)

Store type	RVM type	Capital cost	Installation cost	Housing and works cost (if outdoor)
Small	1 small standalone per store	£22,000	£1,000	N/A
Medium	2 medium standalone per store	£51,800	£2,800	£14,000
Large	**4 in-feeds & 10 cabinets per store**	**£117,500**	**£6,000**	**£70,000**

2.27 Delivery and installation costs are assumed to be five percent of capital costs, and works costs are assumed to be 50 percent of housing costs.

2.28 In total, we expect there to be a network of approximately 1,120 return points with RVMs located across Wales. It is assumed that small and medium RVMs are hosted internally and 50 percent of large RVMs are hosted internally and 50 percent hosted externally. The cost of housing and works for RVMs hosted externally is shown in the table above.

2.29 As with all capital expenditure in the RIA, the cost is annualised over the asset lifespan. The useful economic life of each RVM is expected to be around eight years, and housing around ten years.

Return point & hospitality ancillary costs

2.30 It is assumed that empty containers will be stored in reusable plastic crates for collection from retail and hospitality sites. These are estimated at roughly £4.80 purchase price per crate and assumed to last 97 cycles (i.e. supply chain "trips"). The number of crates required is estimated based on the volume of DRS items returned.

2.31 Hospitality sites are not a public return point and will not host an RVM or be required to accept returns for empty drinks containers that members of the public bring from other locations. Hospitality business that only sell drinks for consumption on the premises can decide not to charge the deposit. They will be provided with a collection service for their empty drinks containers by the DMO ('hospitality closed loop').

2.32 The number of hospitality closed loop collection points in Wales is estimated to be 3,755 and has been taken from the ONS food manufacturing count.

RVM maintenance costs

2.33 The RVM maintenance costs are based on activity-based estimates for regular maintenance, cleaning and emptying the machine. This is costed using the ONS median wage for the Retail and Wholesale standard industry classification (uplifted by 22 percent to reflect on-costs).

Retail rental costs

2.34 The rental cost for placing an RVM on a shop floor is estimated from the space requirements of different sizes of RVMs, the number of return points and the rental cost of retail space.

2.35 RVM space requirements are given below, which include an additional 33 percent floorspace to allow for use of the RVM by customers.

Table 7. Space requirements to host RVMs

Store type	RVM type	Space used (m2) incl. access space
Small	1 small standalone per store	0.9
Medium	2 medium standalone per store	1.9
Large	**4 in-feeds & 10 cabinets per store**	**21.3**

2.36 British Retail Consortium's estimates for retail rental costs from the Defra DRS Impact Assessment have been uprated for 2025.

Table 8. Retail Rental Costs

Store and area	2025 (£/sqft)
Convenience store - sales area	29
Convenience store - storage area	7
Supermarket - sales area	22
Supermarket - storage area	6
Supermarket - car park	**9**

2.37 The storage space for empty drinks containers is accounted for in the rental cost estimates. At manual return points, drinks containers will not be crushed or compacted so that barcodes can be scanned and verified at a bulking and counting centre.

Retail opportunity costs

2.38 The opportunity cost of retail floor space used for return points has been estimated using UK level data on average profits and average floor space to generate estimated average profit of £437 per square meter. This value is multiplied by the retail floor space allocated for RVMs.

2.39 It should however be noted that international schemes report that retailers have seen increases in footfall where there is a positive DRS offer as consumer support for schemes is high.

Retail handling costs

2.40 The retail staff requirements have been estimated using GoUnpackaged activity modelling at each type of return point and are dependent on volume in each store.

2.41 Each RVM will need to be emptied once it is full, with the bottles and cans stored before being backhauled and onward transport. The cost of retail staff time has been calculated based on the number of containers which are expected to be returned, the number of RVMs and their approximate capacity, and that it will take 17 seconds to empty a case load of items (averaging around 10 items) in the activity modelling.

2.42 Similarly, retailers operating manual return points are assumed to incur costs for undertaking the transaction and in preparing for container collection from the store, and the labour required is modelled on an activity-basis that scales with the volume of DRS returns.

2.43 The staff time is monetised using the ONS median wage for the Retail and Wholesale standard industry classification (uplifted by 22 percent to reflect on-costs).

Return point familiarisation and training

2.44 It is assumed retailers will incur one-off transitional costs for familiarisation with the scheme and staff training (for example, on the use of the RVMs and for over-the-counter manual returns).

2.45 Training on how to use and empty an RVM is assumed to take one hour and will be provided by the RVM supplier. At large supermarkets it is assumed that specific staff, such as customer service desk and self-service checkout support staff, will be given the responsibility to empty RVMs and to support customers to use them, and therefore only these staff will require training.

2.46 It is assumed that the number of staff members who receive the initial training will be ten for each large supermarket, five for medium size stores and three for smaller shops. Staff training in those shops where take-back will be manual is also assumed to take one hour. The median wage for the Retail and Wholesale standard industry classification (uplifted by 22 percent to include on-costs) is used to estimate shop workers' wages. These costs are expected to be incurred in 2027.

2.47 Turnover of staff working in grocery stores will mean that training for new staff on how to use and empty an RVM is required. It is assumed that the average number of staff members who receive this training each year will be equivalent to 50 percent of the number who received initial training (i.e. five for each large supermarket, 2.5 for medium size stores and 1.5 for smaller shops). Training for new staff is assumed to take one hour. The median wage for the Retail and Wholesale standard industry classification (uplifted by 22 percent to include on-costs) is used to estimate shop workers' wages. These costs are expected to be incurred from 2028 onwards.

2.48 It is assumed that training for new staff at manual return points takes very little time and can therefore be incorporated within staff inductions with minimal impact.

Logistics

2.49 A logistics system will be implemented to transport the returned bottles and cans from retail return points to bulking stations and counting centres (where required). As reusable containers are introduced, they will be washed and sent to filling sites to be used again. Single-use containers and reusables that have reached the end of their life will be transported to reprocessors for recycling.

2.50 The model assumes that the retail supply chain takes advantage of backhauling to optimise logistics efficiency. This involves using the vehicles which deliver goods to a retailer (and which would ordinarily return to the store or warehouse empty) to transport the empty containers to a bulking location. Such an approach is likely to minimise the additional logistics costs.

2.51 Calculating logistics costs requires modelling of the frequency with which each retailer will need to be visited (which in turn depends on the number of bottles and cans returned to each retailer and the available storage area), location and proximity to a bulking location/counting centre, and the type of collection vehicle used.

2.52 Indicative collection vehicle types and approximate road distances and travel times were used to estimate the logistics costs and carbon impacts. Assumptions were informed by previous modelling by GoUnpackaged on how to achieve 30 percent reuse across UK retail.

2.53 DRS material diverted from local authority kerbside collections to retail return points will represent a significant reduction in the volume of plastic, aluminium and glass that local authorities collect. Whilst local authorities therefore lose the income derived from the sale of this recycled material, they will also see cost reductions associated with its waste disposal when it is found in the residual waste stream. The overall reduction in volume could also present an opportunity to improve the efficiency of collection logistics or support the expansion in materials collected from the kerbside. A quantified saving is not included in this impact assessment as it will depend on the ability to reconfigure services to take advantage of the changes in waste streams. The lost income from recycling is however included in the impact assessment (see section on LA materials revenue losses). This represents a conservative approach as the lost revenue is fully accounted for but there is no accounting for potential future logistics savings.

Bulking and counting centre costs

2.54 Bulking and counting centres will be required to support an optimised logistics approach. There are a number of potential approaches and ultimately the DMO and its partners will determine the locations of these sites. The RIA cost model represents a scenario where bulking and counting centres are co-located at local authority waste facilities in order to efficiently feed into established waste supply chains and logistics.

2.55 Collection vehicles will collect empty drinks bottles and cans from the supply chain distribution centres where they have been backhauled and offload them at the regional bulking and counting centres. Industrial scale counting machines will verify the number of deposit bearing containers that have been returned and enable the DMO to monitor fraud in the scheme. Any discrepancies in the count will trigger further investigation by the DMO. Bottles and cans collected through the scheme via RVMs will not need to be counted as they will be crushed by RVMs.

2.56 Bulking and counting centre costs are estimated at an average £680,000 capex for 2,000 m2 and scaled for the volume of throughput required. Capital costs have been annualised and therefore a combined figure for purchase/lease and operations has been calculated.

2.57 The RIA modelling assumes that the DMO in Wales will be a separate entity and therefore it is assumed that the bulking and counting centres will be dedicated for Wales. However, if infrastructure is shared across the UK there is the potential for economies of scale to be achieved and the costs attributable to Wales would be expected to be lower.

2.58 The costs of handling and storage of materials backhauled to retail distribution centres were also included based on previous industry research by GoUnpackaged.

Reuse system costs

2.59 The Wales DRS aims to drive the national transition to reuse in drinks containers, delivering considerable environmental, social and economic benefits. Infrastructure changes are required to support this transition.

2.60 The drinks containers will need to be washed, and quality checked before re-entering the drinks supply chains. Production lines will need to be adjusted to produce the reusable containers and filling lines adjusted to support their use.

2.61 It is assumed that existing packaging production lines are modified to produce reusable containers. This is estimated at 20 percent of the cost for a new line at £25 million. Similarly, the cost of modifying filler lines is estimated at 20 percent of the cost of a new line at £12 million. Wash plant lines are not operating in the UK at the capacity needed for the Wales DRS and so new plants are estimated at £33 million per facility (£32.3 million for wash equipment and £0.68 million for building). The capex costs are annualised over the facility and equipment lifespans. Operating costs follow the same assumptions as given in the GoUnpackaged 30 percent reuse UK retail report.

DMO administration costs

2.62 There are expected to be ongoing administration costs incurred by the DMO relating to staffing (for customer service operations, contract management, ongoing database management and monitoring and enforcement activities), communication activities and IT (for licenses and IT maintenance).

2.63 The DMO will use an IT system to manage the flow of deposits and containers within the DRS. For the modelling, an estimated price per container was provided by the intended IT provider for the Scottish DRS. The estimated IT costs for Wales are estimated to be approximately £280,000 per annum.

2.64 The DMO will produce consumer facing printed and digital communication campaigns to promote the DRS. It has been assumed that the DMO will communicate in both Welsh and English to support it to meet the performance targets set. Communication materials in other languages may also be needed in certain locations (e.g. retail outlets that serve mixed or multiple ethnic communities in Wales).

2.65 The estimated communication costs were informed by discussions with Re-turn, the DMO for the Republic of Ireland's DRS which commenced on 1 February 2024. Costs have been exchanged from Euro into Sterling and have been scaled by population size.

2.66 It is expected that there will be initial communications costs in 2026 of £570,000 preparing for scheme launch. In 2027 communication costs will ramp up to approximately £1 million per annum. It has assumed that there will be additional 50 percent communication costs for a 12 month period spanning 2031 and 2032 linked to the increasing number of reusable containers.

2.67 Over time we expect that communication costs will reduce, particularly after the collection rate has reached 95 percent. It has been assumed that from 2033 onward, communications will cost the DMO approximately £510,000 per annum.

2.68 The DMO will have a small team of staff to administer the DRS. Research into DRS in other countries suggests that core roles include Managing Director, accounting and finance, communications and marketing, IT, legal and head of operations and logistics. It is assumed that these roles equate to approximately 25 FTE staff. It has been assumed that an additional 10 contact centre and support staff are needed during the mobilisation period (October 2026 – October 2028) to support the set-up of the scheme including registrations and first year of operations. The estimated staff numbers do not include operations and logistics staff as these costs are included within counting and bulking centre and logistics costs.

2.69 ONS standard occupational classification earnings data was used in the analysis to estimate DMO staff gross salary costs (uplifted by 22 percent to reflect on-costs). Annual staff costs are estimated to be approximately £1.7 million, plus additional costs to staff a contact centre of £240,000 per annum, pro-rated for the period October 2026 - October 2028.

2.70 Analysis of other DRS published accounts/financial statements was undertaken to determine indicative costs for other business expenses. It has been assumed that employee business expenses are approximately seven percent of staff gross salary costs, reflective of the Croatian DRS 2023 financial statement.

2.71 DMO administration total costs are estimated to vary between £2.4 million and £3.3 million between 2026 and 2032, and £2.6 million per annum from 2033 onwards.

NRW compliance and monitoring costs

2.72 Natural Resources Wales (NRW) will undertake regulatory activities which will focus primarily on the DMO and producers. The intention is for NRW to take a targeted approach to compliance, with monitoring involving investigating referrals from the DMO, intelligence led audits and inspections based on reports of non-compliance, or proactive audits and inspections. NRW may undertake specific activities to monitor compliance, such as auditing the DMO and its activities, monitoring of providers operating collections and DRS dedicated infrastructure, and managing referrals from the DMO as initial compliance is sought.

2.73 The DMO will reimburse NRW for the costs incurred. NRW provided estimates of the anticipated resource requirement to undertake their monitoring and compliance activities. The estimated cost is approximately £320,000 per annum.

Fraud & leakage costs

2.74 Fraudulent activity includes seeking to charge a deposit on an item which is not part of the scheme, seeking to claim a deposit refund on an item on which no deposit has been paid, and/or attempting to return an item which has already been through the system. Leakage refers to the overpayment of deposit refunds and can happen due to errors in data processing and inflexible data monitoring systems which mean that fraud signals are not spotted in real time.

2.75 Based on evidence from existing schemes and the Business Case for the Scottish DRS, the estimated level of fraud and leakage in the scheme would be approximately equal to 1.25 percent of deposit items placed-on-market.

2.76 There is no fraud risk on glass containers during the transition period as they carry 0p deposit. Anti-fraud measures for glass are also costed below to address fraud risk after the transition period, preventing anyone from claiming a deposit refund twice from the same item or from claiming a deposit from an item purchased outside of the DRS. The fraud cost estimates are therefore only applied to plastic and metal containers.

Direct producer costs

Anti-fraud measures for glass

2.77 As glass has been removed from the scope of DRS in the rest of the UK, (RoUK) there is a risk of fraud through the arbitrage of purchasing drinks in glass containers in RoUK with no deposit and returning them in Wales to fraudulently claim a deposit refund. Glass is heavier and more difficult to transport than PET, aluminium and steel drinks containers, and the increased cost and risk is likely to make intentional arbitrage less attractive.

2.78 Given the potential high costs of fraud, there is a case to implement anti-fraud measures. The clear policy direction and 0p deposit period for glass containers provides industry a grace period of several years to implement such measures. With 0p deposit on glass until October 2031, there is no risk of fraud in the transition period, which also provides an important period of time to implement and test approaches, including with respect to reuse.

2.79 One pathway which is already available and beginning to be deployed in products is by using serialised codes on each container, e.g. via QR codes. This is explored below with illustrative cost estimates. Key industry figures, including GS1 the global standards agency responsible for issuing barcodes, anticipate the shift to unique serialised codes across many consumer product categories in the UK, driven by market and legislative factors unrelated to the DRS. This is already being seen in some products with trials being undertaken by major brands. The cost impacts of the DRS therefore assume a certain level of adoption before October 2031 and estimate the costs to raise this to full market coverage required for Wales DRS glass containers. No forecasts were found on the likely level of future adoption and so for the impact assessment it is assumed that 20 percent of glass DRS SKUs will not have added QR codes by October 2031 and 20 percent of retail points (mostly convenience stores) will not have QR code-enabled scanners at point-of-sale.

2.80 By adding unique serialised codes to each glass DRS container, the codes can be scanned at point-of-sale to assign a deposit to only those sold in Wales where a deposit is paid. Scanners at DRS return points then scan the unique code on the container and mark the deposit as refunded. Scanners reading glass containers purchased in RoUK would identify that no deposit has been paid on the item and so mitigate the arbitrage fraud risk described above.

2.81 This system has further benefits for fraud prevention. Should someone attempt to reclaim the deposit a second time from the same DRS item, the system will look up the unique code of the container in the register and see that the deposit has already been refunded and refuse to refund it again. This system can also be used to identify patterns of attempted fraud to improve adaptive security measures.

2.82 Such unique serialised codes and scanners have been explored in relation to a digital DRS (sometimes known as a hybrid or kerbside DRS) in a 2021 study by Resource Futures. The Resource Futures study reported existing printers for labels of glass containers can support such codes and this can be done before the bottling stage and so would not slow down drinks production lines. As such, no additional infrastructure costs were anticipated in that study.

2.83 Cost estimates included in this impact assessment have however been based on updated information. For the Wales DRS, larger producers may wish to print QR codes in the bottling line rather than in pre-production. This means other information can be easily encoded at the same time, such as batch codes and best before dates. Engagement with industry provided two costs to purchase suitable printers of £55,000 (2022 prices) and £150,000, with an average price of £107,000 in today's prices. It is assumed that 20 printers are purchased to support the larger glass bottling lines serving Wales that would otherwise not have the technology by October 2031, with a total cost of £2.1 million. It is assumed that the replacement rate of these printers is five years and so the annualised cost is £0.4 million.

2.84 Costs were also estimated to provide QR code scanners to 20 percent of retail points on the basis that there may not be total market coverage before October 2031. A handheld scanner was estimated at £165 unit cost and £35 installation, amounting to £242 when inflated to 2025 prices. Assuming the additional scanners are largely required at convenience stores and hospitality, and supplying one scanner at each convenience store, and three per hospitality venue, the total outlay would be £0.7 million.

2.85 IT costs are estimated in the Resource Futures study for a UK-wide scheme encompassing PET, cans and glass with £400,000 to develop a smartphone app and backend software, and £65 million IT server capex. Annual IT costs were estimated at £15 million server costs and £81 million in transaction/processing costs. The smartphone app and software costs were kept constant whilst the other IT other costs were scaled by the number of DRS glass items returned in Wales with a 95 percent return. When inflated to 2025 prices, IT costs were estimated at £1.2 million in one-off costs and £1 million per annum in annual costs.

2.86 One-off costs were assumed to occur in 2030, well ahead of the end of the transition period for glass in October 2031, and annual costs occur from October 2031.

Relabelling costs

2.87 There will be a one-off cost to producers to re-design labels to incorporate a DRS logo and a barcode capable of being read by an RVM.

2.88 Engagement with British Soft Drinks Association (BSDA) producers in 2023 provided a range of costs across multiple producers to redesign product labels, the average cost being approximately £2,000 per stock keeping unit (SKU) (i.e. a product line within a defined market typically has a single SKU). We estimate that approximately 32,000 SKUs are placed on the market in the UK; this figure is reflective of registrations in the lead up to the 2023 planned implementation of the DRS in Scotland.

2.89 With the other UK countries introducing a DRS at the same time as Wales, there is the potential for producers to undertake a single label redesign exercise and design a label which is suitable for all schemes.

2.90 Relabelling costs for cans and PET bottles have been attributed across the UK, whilst relabelling costs for glass bottles have been attributed solely to Wales. The one-off cost for relabelling cans and PET bottles that is attributed to Wales is estimated to be approximately £2.6 million. These costs are expected to be incurred in 2027 prior to the implementation of the DRS in October 2027.

2.91 The one-off cost for relabelling glass bottles is estimated at approximately £2.1 million for any dedicated relabelling of any glass bottles required ahead of the end of the transition period for glass in October 2031. Many products will undergo relabelling before 2031 for commercial and legislative reasons outside of the DRS. The costs attributed to the DRS therefore relate to any bottles (assumed to be 20 percent of SKUs) where incorporating the DRS logo requires a dedicated redesign process and for incorporating serialised QR codes on products that would otherwise not have them (see anti-fraud measures). Relabelling costs for glass bottles are expected to be incurred in 2030 ready for the end of the transition period for glass in October 2031.

Local authority (LA) costs

pEPR LA payment losses

2.92 PET, aluminium and steel drinks containers are exempt from pEPR producer fees ahead of the DRS launch, whilst glass drinks containers are not. If no DRS launches in Wales, all drinks containers (including glass) placed on market in Wales will become subject to pEPR producer fees from 1 January 2028.

2.93 In the DRS scenario, DRS drinks containers will be exempt from pEPR payments from the scheme launch in October 2027 and local authorities will not receive the pEPR payments relating to this material. This includes glass drinks containers during the transitional 0p deposit period.

2.94 The pEPR producer fees are modelled using the base fees values published for year 1 (2025/26), as shown in the table below. As base fees are not published for future years, and we do not know if or how these might change in the future, these have been used for all years in the policy appraisal window. These values have been used to estimate producer fees, which in turn is used as a proxy for pEPR local authority payments.

Table 9: pEPR producer fee rates

Material	Rate (in £ per tonne)
Aluminium	266
Glass	192
Plastic	**423**

LA materials revenue losses

2.95 Local authorities receive revenue from selling the recyclable material they collect. However, pEPR payments take estimated material revenue into account, subtracting that estimate when calculating how much to pay local authorities for the net cost of waste management.

2.96 In the DRS scenario, from the DRS launch (October 2027), there will be a significant reduction in quantity of local authority collected PET and metal drinks containers as the material is diverted to DRS return points. The DRS collection rate reflects the quantity diverted and this results in a corresponding drop in material revenue for local authorities.

2.97 As described above, collection rate targets for 2028 and 2029 apply to all deposit items other than glass. When the collection rate targets include glass from 2030 onwards and the deposit is raised on glass containers in October 2031, it is assumed that glass drinks containers are diverted to DRS return points and the overall scheme performance meets the DRS collection rate targets. However, the regulations allow flexibility in how this achieved and the DMO will have the ability to work with local authorities to deliver a hybrid model, as explored in the scenario analysis further below.

2.98 The material values used in the model are shown in

2.99 Table 10 below, based on Valpak Material Baseline Modelling and subsequent research to reflect recycling collections in Wales. The baseline values reflect the revenue lost by local authorities as material is diverted to the DRS. The assumptions for DRS material values are included for comparison and reflect the higher value of material collected at DRS return points.

Table 10: Material revenue assumptions

Deposit item type	Net recycling value £/t***	
	Baseline	DRS
Glass bottle	£10.00	£12.45
Aluminium can*	£1,340.00	£1,695.00
PET bottle**	£630.26	£721.34

*Steel is not shown in the table above because the weight of steel drinks containers placed on the market is very low.
** The baseline value for PET is for bottles and trays.
***Recycling values are net of any MRF sorting costs.

2.100 DRS and kerbside recycling material prices were explored in previous work by Valpak on Material Baseline Modelling. Wales-specific material values have been used in the impact assessment where possible, particularly for aluminium as explained below. However, the Valpak report provides insight on the price differential:

- Glass drinks bottles: Valpak's model proposed a pre-DRS average value of £5.50/tonne for glass bottles which reflects a proportion of glass bottles being co-mingled with other recyclables and recovered at a MRF, and a post-DRS value of £12.45/tonne. In Wales most local authority collections align with the Collections Blueprint with glass collected source segregated. To reflect the higher level of source segregation in Wales compared to the rest of the UK, a baseline value of £10/tonne has been assumed in this analysis. A small increase of £2.45/tonne is modelled for DRS glass which is aligned with the Valpak study and is attributed to the high quality of the glass and the convenience of a high-volume consistent material stream.
- PET drinks bottles**:** Valpak states that a potential benefit to plastics recyclers from the DRS is the availability of a consistent stream in large quantities of clean, separated PET plastic drinks bottles. Such material is in high demand but relatively short in supply and so would be expected to attract a premium of £130/tonne. This reflects similar premiums for DRS PET reported by European recyclers engaged for this research.

2.101 The aluminium can prices are based on industry values for Welsh kerbside aluminium cans and the expected uplift for DRS material. A lower material value is assigned to aluminium recovered from IBA (at £860/tonne). A further conservative approach is also taken with an adjustment made to account for lower material prices for the material left at the kerbside after removing the higher value DRS materials (reductions of £580/tonne for aluminium and £30/tonne for plastics).

Trading standards costs

2.102 Trading Standards will monitor and enforce the compliance of grocery retailers and on-sale premises. The regulatory functions of Trading Standards are likely to include the provision of business advice, enforcement of signage requirements and, for non-exempt businesses an inspection regime spanning a range of activities. It is expected

that monitoring will be undertaken on an intelligence led basis, following up on complaints or reported potential non-compliances.

2.103 Trading Standards Wales provided estimates of the anticipated resource requirement to undertake their monitoring and compliance activities. The estimated cost is approximately £110,000 per annum.

Societal costs

GHG (greenhouse gas) emissions

2.104 The logistics required for the DRS will create additional greenhouse gas emissions. The DRS will however reduce emissions by supporting the Government's commitment to refill and reuse and increasing recycling rates, thereby avoiding the use of virgin materials and associated energy use - these carbon benefits are summarised in the section 'Avoided GHGs'.

2.105 Consumer research by Kantar identified that a majority of survey respondents felt that they could easily fit participation in the scheme into their everyday lives if return point locations are convenient. The impact assessment has been designed with sufficient return points to reflect the policy intention that deposits can be redeemed in settings that fit within consumer daily routines. It has therefore been assumed that consumers do not undertake dedicated journeys to return their empty drinks containers but incorporate this in existing activities such as shopping for groceries, and therefore there are no additional carbon emissions attributed to this aspect of DRS.

2.106 UK Government carbon conversion factors were used in the study. Carbon emission conversion factors are coefficients that describe the rate at which a process or activity releases greenhouse gases into the atmosphere (e.g. the carbon emission factor for electricity is expressed in kgCO2e/kWh).

2.107 The carbon conversion factors were applied to the activity data estimates, such as the distance travelled and the type of vehicle used in logistics.

2.108 Emissions are monetised using central values from the Green Book Supplementary Guidance uplifted to £2025 prices, as shown in the table below.

Table 11: DESNZ carbon values, £/tCO2e, uplifted to £2025 prices

Year	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Central values	318	322	328	333	337	343	349	353	359	365

Unredeemed deposits

2.109 Consumers who do not return the drinks containers that they purchase will lose the deposits they have paid. At an overall 95 percent return rate and assuming a flat rate 20p deposit, this results in £14 million of unclaimed deposits per year. There are no unredeemed glass deposits before October 2031 to reflect the 0p deposit in the transition period for glass.

2.110 Unredeemed deposits are used to fund the DRS and are treated in this appraisal as a transfer i.e. both a cost and a benefit of the DRS, with the cost being a societal cost to the consumer. The benefit of unredeemed deposits is described in the benefits section further below.

Additional time to participate in DRS

2.111 Participation in a DRS requires effort on the part of consumers, who need to collect and return containers.

2.112 Consumer research by Kantar identified that a majority of survey respondents felt that they could easily fit participation in the scheme into their everyday lives if return point locations are convenient. With this in mind the impact assessment has been designed with sufficient return points to reflect the policy intention that deposits can be redeemed in settings that fit within consumer daily routines. The impact of time spent by consumers at return points has been quantified below.

2.113 As in previous impact assessments undertaken by Defra, we have assumed that it takes approximately 45 seconds for a consumer to return 15 containers at manual return points.

2.114 Feedback from industry is that it takes approximately one to two seconds per container to return deposit items to RVMs. An estimate of 1.5 second per container has been used in our analysis. We assume an average of 30 containers returned per trip on the basis that consumers are more likely to use RVMs when they have a large number of containers to return.

2.115 We have not monetised the impact to consumers of making dedicated journeys to return points and/or queuing at return points on the basis that we have assumed a high-density network of return points. Consumers will have access to convenient locations to return their deposit items. Typically, long store opening times and high capacity RVMs, particularly at large retailers, will ensure that consumers can easily fit participation in the scheme within their everyday lives.

2.116 It is expected that consumers will use a range of transport methods, fitting DRS returns into their current patterns. Taking this into account, we assume an average of 60 seconds additional time per trip to load/unload containers into a bag, bike or vehicle, walk to the return point interface, and any occasional time queueing.

2.117 Feedback from other DRS suggests that consumers typically redeem their deposit voucher printout as part of their normal shop and therefore we have not attributed any additional time for this.

2.118 Using this approach, we estimate that the annual time spent returning drinks containers at manual and RVM return points will be approximately 60 minutes per household per year.

2.119 To monetise this impact, we have applied the ONS UK median average wage (£17.96/hour) multiplied by the average employment rate for adults in Wales (71 percent).

Scheme benefits

2.120 As with the scheme costs presented above, the scheme benefits describe those that will be on the balance sheet of the DMO. These revenues and avoided costs are described in the sections below.

Materials revenue

2.121 Revenue will be generated from sale of the recyclable material from single-use DRS items and reusable items when they are no longer fit for reuse. The quantity of recyclable material captured by the DRS is dependent on the DRS collection rate and the level of reuse. The material values used in the model are shown in

2.122 Table 10 above.

Unredeemed deposits

2.123 Consumers who do not return the containers they purchase will lose the deposits they have paid. At an overall 95 percent return rate and assuming a flat rate 20p deposit, this results in £14 million of unclaimed deposits per year, which helps fund the operation of the DRS. There are no unredeemed glass deposits before October 2031 to reflect the 0p deposit in the transition period for glass. Unredeemed deposits are both a cost and a benefit within this analysis and is therefore treated as a transfer.

Producer benefits

2.124 These are the revenues and avoided costs that benefit drinks producers but do not appear on the balance sheet of the appointed DMO in Wales.

Avoided pEPR producer fees

2.125 As explained in the section on 'pEPR LA payment losses', pEPR producer fees are currently paid on the cost of managing glass drinks containers and will start for aluminium and metal drinks containers on 1 January 2028 if no DRS is launched in Wales. Introducing a DRS in Wales means that, from the DRS the scheme launch in October 2027, these items will be exempt from pEPR producer fees. This represents a considerable saving for producers. The pEPR producer fee rates, and the corresponding loss in revenue for local authorities, are detailed in the section on 'pEPR LA payments' above.

Packaging material savings

2.126 Every time a drinks container is reused, refilled, and placed back on the market, it replaces a single-use container. Along with the environmental and social benefits, this provides considerable cost savings for the drinks industry.

2.127 It is assumed that reusable glass containers are used an average of 33 times and plastic containers would last no longer than 8 to 20 uses. Packaging weights vary by container size, but it is generally assumed that reusable containers are 20 percent heavier than their single-use counterparts to support multiple rounds of reuse. Packaging prices per kg are given in the table below, derived from previous research by GoUnpackaged and Zero Waste Scotland.

Table 12. Packaging prices

Material	£ per kg
Glass	£1.33
Plastic	£4.60
Aluminium	**£3.80**

Reduced fraud risk in rest of UK DRS

2.128 In the baseline scenario where there is no DRS in Wales, there is consequently considerable fraud risk as drinks in plastic and metal containers could be purchased in Wales with no deposit and returned to DRS in the rest of the UK to fraudulently reclaim a deposit.

2.129 This risk is seen as particularly high due to the lightweight nature of plastic and metal containers, making them easy to handle and transport across borders, as well as the large concentration of people living near the Wales-England border. These conditions make it relatively easy for those seeking to exploit the system through fraudulent means. In addition, there would be a level of unintentional arbitrage from the natural movement of people.

2.130 If 20 percent of in-scope plastic and metal drinks containers currently POM in Wales were used in such cross-border fraud, with a 20p deposit, it would cost £48 million per annum.

2.131 The Welsh Government has brought forward the launch date of the DRS in Wales to align with the rest of the UK, mitigating this fraud risk from the start of the two schemes in October 2027. The benefit will be felt by the DMO of the DRSs in Scotland, England and Northern Ireland, which in turn is expected to offset the costs of fraud seen in the baseline scenario and prevent it from inflating producer fees in those schemes.

Hospitality benefits

Avoided glass commercial recycling collection costs

2.132 Hospitality venues currently pay for bottles to be collected via a commercial recycling collection service. Venues such as bars, pubs and clubs typically produce large volumes of glass drinks containers. DRS items will be collected separately, diverting this material from the commercial waste collection services that venues pay for themselves.

2.133 It has been assumed that there will be no avoided costs for hospitality venues for commercial recycling collections of drinks cans and PET bottles. This is because other food tins and drinks/non-drinks plastic bottles will need to be collected. This is however a conservative assumption as some of these venues may be able to arrange a reduced collection frequency.

2.134 We estimate 19,800 tonnes of in-scope glass drinks containers per annum are currently collected at hospitality venues, equivalent to 330,000 collections of 240L bins.

2.135 Recognising that waste is collected in a range of bin sizes, an average collection cost per litre of bin space was estimated using data from five local authorities in Wales on commercial waste charges for collecting glass. This gave an indicative cost of 4 pence per litre of bin space.

2.136 Multiplying the tonnage of glass by the collection cost per bin litre gives an overall estimate of £2.8 million per annum in savings. This calculation is considered conservative in that it does not account for bins that are collected when they are less than 100 percent full, which would result in a higher number of avoided collections and therefore higher savings. It is assumed this full saving is achieved from scheme launch as the DMO is required to arrange collections from on-sale premises.

Local Authority benefits

Litter clean up savings

2.137 One of the aims of a DRS is to reduce the amount of drinks litter on Welsh streets, in the countryside and on beaches. The deposit provides an incentive for consumers to return their bottle or can rather than littering it. In cases where a bottle or can has been littered, it provides an incentive for someone else to pick it up and return it to a return point and claim the deposit.

2.138 Drinks litter remains a significant problem in Wales. Keep Wales Tidy provided 2025 results from the new GLÂN survey methodology ahead of annual report publication. The data showed that drinks litter was found on 57 percent of sites surveyed across Wales in 2025. Smashed / broken glass was found on eight percent of sites, a material that can be costly, difficult and hazardous to clean up and negatively impacting an area. The previous LEAMS survey provides longitudinal data which shows sites with glass bottles more than quadrupled in occurrence over the last five years, increasing to 15 percent of sites.

2.139 A 2021 study by WRAP estimated that the UK cost to local authorities of cleaning up DRS materials in litter is approximately £172 million per year, of which 6.1 percent was attributed to Wales. Once inflated to £2025 prices, the cost of clearing up items which will be covered by a Wales DRS (after the transitional period for glass) is approximately £13 million per year.

2.140 In 2022 WRAP appraised the cost breakdown of litter by fixed and variable costs. The results showed that 48 percent of local authorities expect to be able to make savings, and that 57 percent of costs are directly associated with litter clean-up. Disposal costs were reported to be 10 percent of litter costs. These have been removed from this calculation as they are covered in the ‘Avoided disposal’ section of this RIA.

2.141 There have been studies in other countries looking at the impact of the introduction of a DRS on litter. Whilst scheme design and the deposit level are important underlying factors on performance, these studies typically found that for DRS similar to those planned across the UK a fall by approximately 85 percent following the introduction of a DRS can be expected. This would indicate a cost saving to local authorities of around £2.7 million per year in Wales once the DRS has been fully implemented. These costs savings have been adjusted for the 0p deposit period and the composition of binned waste and street litter in Wales by item count.

2.142 Litter clean up savings for other organisations have not been monetised, but the wider benefits are discussed further in sections below.

Avoided disposal

2.143 Local authorities waste disposal costs will reduce as there will be fewer drinks containers in their residual waste streams. The cost saving is estimated via the weight reduction in residual waste multiplied by £131 per tonne for energy-from-waste treatment taken from the WRAP Gate Fees Report.

2.144 It is assumed that any drinks containers that are not recycled will be treated using energy-from-waste in both the baseline and the preferred policy option. Landfill Disposal Tax therefore does not apply.

Societal benefits

Litter disamenity

2.145 Keep Wales Tidy 2025 GLÂN survey results (awaiting publication) showed that drinks litter was found on 57 percent of sites surveyed across Wales in 2025 and smashed / broken glass on eight percent of sites. The Marine Conservation Society 2024 beach clean survey found that although drinks-related litter had reduced by 24 percent from the previous year, it was still found on 99 percent of beaches surveyed in Wales, and glass bottles were found on 49 percent of beaches. Trash Free Trails reports that 33 percent of single-use items found on UK recreational trails are drinks containers, with emerging evidence on disproportionate wildlife entrapment in glass bottles compared to other litter forms.

2.146 In addition to the direct costs incurred by local authorities and other bodies to clean-up drinks litter, there are also indirect costs. Various reports have identified negative impacts around mental health and well-being, crime [see also], property prices, vermin and risks to wildlife [see also].

2.147 In 2013, the University of Leeds and Loughborough University undertook a study looking at the value that citizens place on different aspects of the local environment. The study, which is based on responses from around 560 members of the public, used a willingness to pay approach to identify the priority areas for the management and protection of the local environment. Of the 11 aspects considered, litter was considered the most important, higher than things like fly-tipping, dog fouling and graffiti. A value was placed on each aspect by determining how much an individual would be willing to pay in additional council tax per person per month in order to improve that factor by one unit on a ten-point scale from worst to best. The willingness to pay to reduce litter was estimated to be £3.95 per person per month.

2.148 The study referred to above considered the disamenity value of litter in general and was therefore considered to be too broad to be used when assessing DRS. To remedy this, Defra commissioned Eftec Consulting Ltd to model the benefits of reducing the disamenity from drinks litter specifically. Disamenity impacts were described in the study as:

- the visual effect of the untidiness of an area
- distress and upset for local residents and visitors, which could affect their health and wellbeing

- a cumulative effect where the presence of litter, especially in large clusters, attracts more litter
- the potential for attracting vermin and pests, particularly if there are large clusters of litter, with associated hygiene and health hazards
- the potential for harm to wildlife
- potential 'downstream' effects through pollution of the wider environment and long-term consequences due to litter breaking down and contaminating land (soils) or getting into rivers and seas (e.g. plastics in seas and oceans)
- the potential contribution to deprivation in an area, which may affect house prices, local businesses, anti-social behaviour, and even levels of crime

2.149 Using two separate stated preference choice tasks, Eftec estimated willingness to pay (WTP) for improvements in the local environment from a reduction in drinks container litter.

2.150 The survey included two separate stated preference choice tasks, which directly addressed the study's objectives to provide additional evidence on the benefits of reducing litter disamenity:

- dichotomous choice contingent valuation (DCCV): directly asked households' WTP for reducing drinks container litter and associated disamenity impacts
- discrete choice experiment (DCE): a sequence of repeated choices that elicited households' preferences and WTP for reducing disamenity from litter according to specific contextual factors (location, litter composition, level of accumulation)

2.151 The DCCV component provides the basis for estimating the aggregate benefit of a DRS, whilst the DCE examines how sensitive benefits are to local context and different settings in which litter could be reduced, accounting for the location type and the baseline level of litter.

2.152 The mean value for an 85 percent reduction in drinks container litter was approximately £62 per household per year, which is equivalent to about £5 per month. For context – in terms of overall household budget – this is equivalent to around 0.2 percent of median household income at the time (in England).

2.153 On this basis, litter disamenity benefits in Wales are estimated to be £100 million per year for an 85 percent reduction in drinks container litter when the DRS is fully implemented. In apportioning the litter disamenity to DRS glass, PET and cans, it was not possible to account for smashed glass and is likely to underrepresent the impact of including glass in the DRS.

2.154 Whilst the litter disamenity research was undertaken in England, the authors considered that the results were equally applicable to Wales, Scotland and Northern Ireland and extended their analysis to present UK results.

2.155 A conservative approach was taken, in that the target for the DRS in Wales is to achieve a 95 percent capture rate in 2032; if this target is achieved/exceeded then the reduction in litter, and therefore the disamenity benefit could be even greater.

Avoided GHGs (greenhouse gasses)

2.156 The DRS is expected to have a dual impact on greenhouse gas emissions - by reducing the amount of single-use drinks containers through reuse and by increasing recycling. This significantly reduces virgin material consumption and associated supply chain emissions, improves resource efficiency and reduces the amount of waste being sent for disposal (primarily energy-from-waste Facilities). The impact assessment also takes into account any increase in emissions due to reusable drinks containers being heavier.

2.157 GHG emissions savings have been calculated using UK Government carbon emissions factors and then applying the latest projected carbon values.

2.158 It is worth noting that not all avoided emissions will accrue to the net Welsh emissions account and therefore will not all count towards the statutory GHG targets. For example, avoiding the use of virgin materials and associated energy use will depend on where the containers are manufactured and not all drinks containers used in Wales are made in Wales. The Welsh carbon reduction targets being based on territorial emissions, not consumption emissions.

Summary of costs and benefits of the return-to-retail option

2.159 Estimates for each year are presented in the table below. These represent the change from the baseline scenario, i.e. the increase in costs or benefits resulting from the DRS. The net present value and benefit-cost ratio are calculated for the 10-year period.

2.160 The results show that the introduction of this option would lead to significant environmental benefits. While the initial infrastructure creates an upfront emissions cost, the emissions decrease once the scheme is fully operational and continue to drop as reuse increases. This trend suggests that in line with wider evidence from studies which show a move to 40 percent reuse is key, beyond the policy appraisal period rising reuse rates would continue to amplify these benefits as demonstrated by international schemes already achieving 70 percent or more. In addition, the reduction of litter brings further environmental and community benefit. DRS is also expected to further increase the quantity and quality of recyclate from in scope drinks containers if the high collection targets are met. This will provide a source of income for the DMO to support funding of the system. The DRS will also reduce some of the litter cleanup costs for local authorities and waste management companies. The transition to reuse will reduce the amount of single-use packaging, which is reflected in the reduction in expenditure on primary packaging production. The overall quantity of waste generation is reduced and recycling rates further increased, with high-quality recyclate more likely to be used in higher value manufacturing processes and command a higher market value.

2.161 Key costs include RVMs and associated retail return point costs, and logistics. The additional time for citizens to engage in the DRS is also shown as a societal cost.

2.162 Local authorities may experience a relatively small decrease in the amount of residual waste collected when drinks containers are diverted to DRS return points.

However, any reduction in costs is far outweighed by the reduced materials recycling revenue. If no DRS were launched in Wales, local authorities would also receive payments through packaging EPR, as a backstop was included within the EPR regulations in the scenario where no DRS is introduced in any part of the UK.

2.163 Packaging EPR payments and unredeemed deposits are treated as a transfer in the impact assessment, i.e. they appear as both a cost and a benefit to different parties and so produce no net gain or loss.

2.164 As is the case in most international DRSs, the cost of the scheme is expected to be funded by a combination of producer fees, the revenue from the sale of recyclable materials and unredeemed deposits.

2.165 The greenhouse gas emissions are also presented in terms of total tonnes of CO2 equivalent (CO2e) over the 10-year policy appraisal window. As with the monetised costs and benefits, these figures represent the estimated change from the baseline scenario. However, as the transition period and the phasing in of reuse have been incorporated into the scheme, this means that the scheme is only fully operational for a comparatively short period of that 10 year window which incorporates the initial phasing in of reuse.

2.166 The results indicate that reuse and recycling significantly reduce the greenhouse gas emissions associated with packaging, but the emissions associated with the infrastructure and logistics required to introduce the DRS are greater than the greenhouse gas benefits within the appraisal window where a return-to-retail scheme is deployed. The 10-year policy appraisal period however only actually covers four years where the scheme is in full operation at 95 percent collection rate, which in turn covers the initial phasing in of reuse reaching 30 percent reuse in 2035. Other studies have shown that building reuse up to a scale of around 40 percent is key, beyond which the net benefits are significant. Internationally, a meta-analysis of lifecycle analysis (LCA) studies on reusable packaging found that, despite reusable glass bottles being generally heavier than aluminium and plastic equivalents, over the full life-cycle they have 85 percent less GHG emissions than single-use glass, 70 percent less than single-use PET, and 57 percent less than single-use aluminium.

2.167 The figures present a conservative estimate of emission reductions as they do not account for the reduction in packaging weight transported in local authority kerbside collections which, particularly for glass, would be significant. Nor do they account for any efficiency gains in local authority collection logistics as the DRS materials is diverted from the kerbside to DRS return points. Local authority collection vehicles could be reconfigured to collect additional materials such as batteries and textiles or for more efficient use of vehicle space and overall logistics, both of which could deliver further emission reductions. Such changes would depend on many factors, including future policy and waste industry trends, and so have not been included in the estimates below.

2.168 As the result shows the emissions calculated for the return-to-retail model of DRS, rather than the Welsh Government's preference for a hybrid model, this is explored further below (see scenario analysis). The Wales DRS legislation having been developed to enable the DMO to take an approach to DRS which utilises the benefits

of Wales' kerbside collection alongside return-to-retail infrastructure in a hybrid approach. This analysis indicates that there is potential to reduce the financial cost whilst maintaining system performance, together with the ability for efficiency gains in logistics to produce a greater reduction in greenhouse gas emissions.

All costs and benefits

Costs	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Return point infrastructure costs		£2.9 M	£11.5 M	£11.5 M	£11.2 M	£11.1 M	£10.6 M	£10.6 M	£10.6 M	£10.6 M
Return point & hospitality ancillary costs		£0.0 M	£0.1 M	£0.1 M	£0.3 M	£0.4 M	£1.0 M	£1.1 M	£1.2 M	£1.3 M
RVM maintenance costs		£2.1 M	£8.6 M	£9.6 M	£11.0 M	£11.5 M	£12.5 M	£12.5 M	£12.5 M	£12.5 M
Retail rental costs		£0.5 M	£2.2 M	£2.2 M	£2.4 M	£2.7 M	£3.3 M	£3.4 M	£3.6 M	£3.7 M
Retail opportunity costs		£0.7 M	£2.7 M	£2.7 M	£2.6 M	£2.6 M	£2.5 M	£2.5 M	£2.5 M	£2.5 M
Retailer handling costs		£3.3 M	£13.4 M	£15.2 M	£18.5 M	£19.8 M	£23.0 M	£22.9 M	£22.7 M	£22.5 M
Return point familiarisation and training		£0.2 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M
Logistics costs		£0.3 M	£1.3 M	£2.4 M	£5.2 M	£11.7 M	£29.7 M	£35.6 M	£41.5 M	£47.5 M
Bulking & counting centre costs		£0.7 M	£2.9 M	£3.6 M	£7.1 M	£11.0 M	£22.8 M	£24.9 M	£27.1 M	£29.2 M
Reuse infrastructure costs		£0.0 M	£0.0 M	£0.1 M	£0.2 M	£0.5 M	£1.3 M	£1.6 M	£1.9 M	£2.3 M
DMO administration costs	£2.4 M	£3.2 M	£3.3 M	£3.1 M	£3.1 M	£3.0 M	£2.7 M	£2.6 M	£2.6 M	£2.6 M
NRW compliance & monitoring costs		£0.2 M	£0.3 M	£0.3 M	£0.3 M	£0.3 M	£0.3 M	£0.3 M	£0.3 M	£0.3 M
Fraud & leakage costs		£0.7 M	£3.0 M	£3.0 M	£3.0 M	£3.0 M	£3.0 M	£3.0 M	£3.0 M	£3.0 M
Anti-fraud measures for glass		£0.0 M	£0.0 M	£0.0 M	£1.2 M	£1.1 M	£1.5 M	£1.5 M	£1.5 M	£1.5 M
Relabelling costs		£2.6 M	£0.0 M	£0.0 M	£2.1 M	£0.0 M	£0.0 M	£0.0 M	£0.0 M	£0.0 M
pEPR LA payment losses		£4.0 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M
LA materials revenue losses		£4.0 M	£16.2 M	£18.4 M	£20.7 M	£21.7 M	£22.7 M	£22.9 M	£23.2 M	£23.4 M
Trading Standards costs		£0.0 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M
Societal costs - GHG emissions		£1.2 M	£5.0 M	£6.0 M	£8.2 M	£10.7 M	£17.3 M	£19.0 M	£20.8 M	£22.6 M
Societal costs - unredeemed deposits		£17.9 M	£71.5 M	£47.7 M	£23.8 M	£23.3 M	£14.4 M	£14.4 M	£14.4 M	£14.4 M
Societal costs - additional time		£2.9 M	£11.7 M	£13.4 M	£15.7 M	£16.6 M	£18.6 M	£18.6 M	£18.6 M	£18.6 M
Total	**£2.4 M**	**£47.7 M**	**£179.9 M**	**£165.4 M**	**£162.7 M**	**£177.0 M**	**£213.2 M**	**£223.4 M**	**£233.9 M**	**£244.4 M**

Benefits	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035

Materials revenue	£5.0 M	£20.2 M	£22.8 M	£25.9 M	£25.7 M	£23.8 M	£22.3 M	£20.8 M	£19.3 M
Unredeemed deposits	£17.9 M	£71.5 M	£47.7 M	£23.8 M	£23.3 M	£14.4 M	£14.4 M	£14.4 M	£14.4 M
Avoided pEPR producer fees	£4.0 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M
Packaging material savings	£0.1 M	£0.2 M	£2.1 M	£2.2 M	£9.7 M	£28.4 M	£37.7 M	£47.1 M	£56.4 M
Reduced fraud risk in rest of UK DRS	£11.9 M	£47.7 M	£47.7 M	£47.7 M	£47.7 M	£47.7 M	£47.7 M	£47.7 M	£47.7 M
Avoided glass commercial recycling collections	£0.7 M	£2.8 M	£2.8 M	£2.8 M	£2.8 M	£2.8 M	£2.8 M	£2.8 M	£2.8 M
Litter clean up savings	£0.6 M	£2.4 M	£2.4 M	£2.5 M	£2.5 M	£2.7 M	£2.7 M	£2.7 M	£2.7 M
Avoided disposal	£0.2 M	£0.7 M	£0.8 M	£1.0 M	£1.1 M	£1.5 M	£1.4 M	£1.3 M	£1.2 M
Societal benefits - litter disamenity	£24.5 M	£98.0 M	£98.0 M	£98.0 M	£98.4 M	£100.3 M	£100.3 M	£100.3 M	£100.3 M
Societal benefits - avoided GHGs	£0.0 M	£0.1 M	£0.7 M	£0.7 M	£3.1 M	£9.2 M	£12.4 M	£15.7 M	£19.1 M
Total	**£64.9 M**	**£269.6 M**	**£250.8 M**	**£230.5 M**	**£240.2 M**	**£256.6 M**	**£267.6 M**	**£278.6 M**	**£289.8 M**

10-year NPV estimates (2025 prices, 2026 present value)	
Present Value Costs	£1362.2 M
Present Value Benefits	£1787.0 M
Net Present Value (NPV)	£424.7 M
Benefit:Cost Ratio (BCR)	1.31

GHG emissions - 10-year total	**Tonnes CO2e**
Transport	316000
Packaging	-171000
Net balance	**145000**

Note: An increase in emissions is shown as a positive number and a decrease in emissions is shown as a negative number.

2.169 The sections below show who the costs and benefits fall to by grouping the estimates by stakeholder group. All values are presented in 2025 prices with 2026 as the present value base year, and show the total estimated value over the 10-year policy appraisal window (2026-2035).

Scheme costs and benefits

2.170 These costs and benefits are expected to fall to the DMO.

Costs	10-year Present Value
Return point infrastructure costs	£75.8 M
Return point & hospitality ancillary costs	£4.3 M
RVM maintenance costs	£76.6 M
Retail rental costs	£19.8 M
Retail opportunity costs	£17.8 M
Retailer handling costs	£132.7 M
Return point familiarisation and training	£0.5 M
Logistics costs	£136.7 M
Bulking & counting centre costs	£102.2 M
Reuse infrastructure costs	£6.0 M
DMO administration costs	£24.7 M
NRW compliance & monitoring costs	£2.3 M
Fraud & leakage costs	£20.5 M
Total	**£619.8 M**

Benefits	10-year Present Value
Materials revenue	£155.2 M
Unredeemed deposits	£212.0 M
Total	**£367.3 M**

Summary	
Present Value Costs	£619.8 M
Present Value Benefits	£367.3 M
Net Present Value (NPV)	-£252.6 M

Direct producer costs and benefits

2.171 These costs and benefits fall to producers directly (or via the DMO appointed for the other UK nations), rather than appearing on the balance sheet of the appointed DMO in Wales.

Costs	10-year Present Value
Anti-fraud measures for glass	£6.4 M
Relabelling costs	£4.4 M
Total	**£10.8 M**

Benefits	10-year Present Value
Avoided pEPR producer fees	£176.1 M
Packaging material savings	£142.1 M
Reduced fraud risk in rest of UK DRS	£328.2 M
Total	**£646.3 M**

Summary	
Present Value Costs	£10.8 M
Present Value Benefits	£646.3 M
Net Present Value (NPV)	£635.5 M

Hospitality benefits

2.172 A benefit is estimated for the hospitality sector as empty glass bottles will be collected by the DRS rather, reducing expenditure on commercial recycling collections.

Benefits	10-year Present Value
Avoided glass commercial recycling collections	£19.3 M

Local authority costs and benefits

2.173 These costs and benefits are expected to fall on local authorities in Wales. It should be noted that pEPR LA payment losses include pEPR payments for plastic and metal drinks containers, which were only written in to pEPR regulations as a backstop to cover the case of no DRS being launched.

Costs	10-year Present Value
pEPR LA payment losses	£176.1 M
LA materials revenue losses	£143.0 M
Trading Standards costs	£0.7 M
Total	**£319.9 M**

Benefits	10-year Present Value
Litter clean up savings	£17.5 M
Avoided disposal	£7.6 M
Total	**£25.1 M**

Summary	
Present Value Costs	£319.9 M
Present Value Benefits	£25.1 M
Net Present Value (NPV)	-£294.8 M

Societal costs and benefits

2.174 The wider societal costs and benefits are presented below.

Costs	10-year Present Value
Societal costs - GHG emissions	£88.8 M
Societal costs - unredeemed deposits	£212.0 M
Societal costs - additional time	£110.9 M
Total	**£411.7 M**

Benefits	10-year Present Value
Societal benefits - litter disamenity	£681.8 M
Societal benefits - avoided GHGs	£47.1 M
Total	**£729.0 M**

Summary	
Present Value Costs	£411.7 M
Present Value Benefits	£729.0 M
Net Present Value (NPV)	£317.3 M

Summary of non-monetised costs and benefits of the return-to-retail option

Business familiarisation and data reporting

2.175 Time spent by business familiarising themselves with the requirements of the DRS and reporting data to the DMO (such as the number of DRS items placed on market) has not been monetised in this assessment. Whilst most producers will already be familiarising themselves with DRS requirements for the rest of the UK, additional familiarisation will be required for the specifics of the Wales DRS. The time and associated cost of reporting data to the DMO is unknown, but as an industry-led body it is expected to be an efficient reporting system.

Material switches

2.176 Potential material switches could occur from the introduction of a DRS, but this has not been quantified due to a lack of available evidence as the impact against the baseline scenario and the level of uncertainty which are described briefly below.

2.177 In response to the 2021 DRS Consultation, some stakeholders suggested that the inclusion of glass in the DRS could reduce the likelihood of any material switching between packaging formats. The scheme in Wales incorporating all materials within scope, means that materials are on a level playing field.

2.178 Other stakeholders highlighted that the inclusion of glass in a DRS resulted in a decrease in glass bottle sales in certain countries (Croatia, Estonia and Finland). However, no consistent corresponding pattern of increasing PET sales was observed, and no wider market context was provided. In addition, industry stakeholders have highlighted that material switching in the UK is being seen as a result of pEPR, which would apply in the baseline scenario.

2.179 Some stakeholders have also stated that the cumulative cost of deposits on multipacks could disincentivise consumers from purchasing them, with potential switching to large PET bottle packaging formats.

2.180 According to a Kantar consumer research report commissioned by the Welsh Government, bottles with lids (usually plastic) are preferred to cans as they are less messy when being transported for DRS return to retail, so there may be some shift from cans to either plastic or glass bottles with lids. The introduction of reuse may also see consumers positively choosing those materials that are reuseable, with other countries seeing a consumer preference to products that embrace the scheme.

2.181 Zero Waste Scotland noted the difficulty in disaggregating the impact of a DRS from other drivers and the difficulty, therefore, in being able to quantify a shift in material use through its inclusion or exclusion from the DRS.

Consumer impacts

2.182 The time consumers will spend understanding the new DRS system has not been monetised due to uncertainties in estimating this. Many citizens in Wales will need to familiarise themselves with a DRS when visiting the RoUK, which will have a very similar customer experience to the Wales DRS. Consumers in Wales will additionally need to understand glass DRS returns and, over time, engage in reuse systems. DMO communication campaigns have been monetised in this RIA and return rates in the initial years of DRS in Republic of Ireland and Latvia suggest consumers can adopt such schemes quickly.

2.183 The DRS will result in consumers having to pay an additional amount (assumed to be 20p) at the point of purchase for a drink sold in bottle or can. Such a price increase would normally be expected to impact on the demand for the relevant products and shift consumption towards comparable products outside the scope of the scheme. However, since the price increase reflects a refundable deposit, standard price elasticities of demand and cross-price elasticities of demand are unlikely to apply. Including glass drinks containers in the Wales DRS reduces the options for such consumer switching.

2.184 The Kantar report describes research into consumer attitudes to a DRS in Wales and how they are likely to use the scheme. While there was strong support for the introduction of a DRS (74 percent of adults either strongly supported or supported the introduction of a scheme, compared with 10 percent who strongly opposed or opposed it and 16 percent who said they neither supported nor opposed a DRS), there was also a suggestion a small minority of participants in the study would either reduce their consumption of products within scope of the scheme or stop purchasing them altogether; this was particularly true of children and younger adults.

2.185 Making it as easy as possible for consumers to participate in the scheme, return their drinks containers and collect the refund will reduce market distortions. The Kantar research found a significant proportion of the drinks within scope of the DRS are consumed away from home and emphasised the importance of the making the scheme convenient to use, with 40 percent of survey respondents stating they would be reluctant to carry empty containers around with them to find a return point. This highlights the importance of return points for all drinks containers consumed ‘on the go’.

Job creation

2.186 A Reloop summary of DRS studies determined that DRS creates more jobs than kerbside recycling and landfill. A previous Eunomia study estimated a UK DRS with a 90 percent collection rate would lead to an increase in over 4,000 full-time equivalent (FTE) posts. Whilst some of these posts may be outside of the UK in overseas recycling activity, excluding these still led to an estimated increase in over 3,000 FTEs.

Increased footfall in retail

2.187 Survey responses in Ireland found that over half of consumers bring their empty drinks containers back when their bag or box is full at home while 36 percent bring them back whenever they do a grocery shop and 62 percent redeem the voucher immediately against grocery purchases.

Financial benefits to charities and local groups

2.188 The Wales DRS regulations specify that consumers can choose to donate their reclaimed deposits to charity via the DMO. In 2011 Ipsos Mori survey, 12 percent of British adults said they would always donate recovered deposits to a local charity, when given the option to do so and a further two-thirds said they would donate their deposit most or some of the time. The Republic of Ireland DRS has already raised over €215,000 via the central "Return for Children" campaign and over 3,600 schools, clubs, and community organisations have used the scheme to support local causes via donation of empty containers.

Societal impacts - littering

2.189 Littering of drinks containers has been found to have a broad range of impacts on people, the environment and business. Whilst the impact a DRS has on reducing the littering of drinks containers on streets, in terms of visual disamenity and local authority clean-up costs has been explored in detail, there should be consideration on the wider impacts on tourism, human and animal health, and the marine environment. These impacts are described below.

Tourism

2.190 Tourism is a critical part of the Welsh economy, and particularly the outdoor activity sector. In 2021 the total income from trips associated with outdoor activities in Wales was valued at £1.6 billion, supporting an estimated 31,000 jobs, and representing approximately 21 percent of all tourism-related jobs in Wales.

2.191 The 2024 State of Our Trails report highlighted that since 2020, a total of 285,554 littered items of single-use, weighing 4.6 tonnes, had been collected over 6,793 km. Of those littered items, 33 percent were previously classified as being DRS in-scope containers.

2.192 There are similar impacts on the walking trails of Yr Wyddfa, a location that has draws the four million tourists who visit Eryri National Park each year. More than 2,700 pieces of litter were removed by volunteers in one clean-up in just six hours, of which 30 percent (800 items) were drinks containers in-scope of the DRS.

Human injuries

2.193 Evidence has shown glass bottles can be a contributor to violent assaults and public injuries. A 2010 study undertaken by Glasgow Caledonian University reported on a survey and series of interviews with male young offenders during 2007 and 2008. It highlighted how after knives, bottles were the preferred weapon for offenders who had consumed alcohol.

2.194 Another 2010 report by Design Out Crime highlighted UK statistics on glass related violent crime, with 87,000 incidents per year, with glass bottles being used as blunt instruments for assaults.

2.195 Cost recovery from NHS charges guidance which applies across Wales, Scotland and England is calculated at varying levels depending on injury severity. The range of costs are illustrated below:

- where the injured person is provided with National Health Service (NHS) ambulance services, the charge is £225 for each occasion
- where the injured person receives NHS treatment, but is not admitted to hospital, the charge is £744
- the daily charge for NHS inpatient treatment is £915
- the maximum charge in respect of an injury is £54,682

2.196 Whilst difficult to be exact about the costs across the NHS of injuries related to glass, it illustrates the varying levels of prevalence, severity, and potential cost to public finances of the violent use of glass bottles.

2.197 The implementation of DRS will reduce glass bottle littering including the occurrence of bottles left in public spaces. This has the potential to reduce the risk of glass bottles being used as weapons to cause injury and cost to the NHS.

Marine environment

2.198 With 2,000 km of coastline, Wales is vulnerable to the impacts of drinks container litter on its marine environment.

2.199 Marine Conservation Society 2024 beach clean survey results highlight the prevalence of drinks related litter on Welsh beaches:

- 99 percent of beaches surveyed in Wales contained drinks-related litter
- 49 percent of beaches surveyed in Wales contained glass bottles litter

2.200 In the same report, Marine Conservation Society (MCS) 'Source to Sea' reports on littering within inland areas including towns, parks and rivers, and found that 91 percent of sites in the UK had litter of plastic bottles and lids and 80 percent of sites had glass bottles.

2.201 Studies conducted by the State of Nature Partnership, Ocean Conservancy and Surfers Against Sewage support the evidence presented by MCS in the prevalence of drinks container related litter impacting on beaches and marine animals within Wales.

Scenario analysis – the Welsh Government's preferred option of a hybrid collection system

2.202 The monetised costs and benefits are set out above for a Wales DRS where all items returned in the DRS go through retail return points. This implementation of the regulations is provided as the main scenario as it reflects how DRS is typically implemented in other countries. However,

the Wales DRS regulations do not mandate a solely return-to-retail model and the DMO will be able to implement a hybrid approach to DRS collections, for example working with local authorities or third-party logistics companies to provide DRS collections from kerbside collections or public spaces. Wales having one of the best kerbside collections systems in the world.

2.203 A hybrid collections scenario has therefore been modelled to explore the potential costs and benefits of collecting from both retail return points and kerbside collections. Kerbside collection of DRS items would provide greater convenience to citizens and potentially increase participation in the scheme. In this scenario, it is assumed that a large proportion of DRS returns will be collected through kerbside collections, reducing the volume returned to retail.

2.204 Kerbside collections could be organised by the DMO, a third-party logistics company or working with local authorities. In this scenario, it is assumed that local authorities who are responsible for Wales' kerbside collection system would collect the DRS items. This would see the modifying of existing recycling collection vehicles, so logistics are operated efficiently, incorporating the material into existing recycling rounds. This scenario does not presuppose that local authorities and the DMO will come to such an arrangement but is presented to demonstrate what the potential costs and benefits of such an approach could be.

2.205 The sections below describe the assumptions and approach for the hybrid scenario and where they differ from those presented above for the solely return-to-retail approach. The text has not been repeated where the assumptions are the same.

2.206 The arrangement between the DMO and local authorities could return recyclable DRS material to the DMO, or it could be retained by local authorities and the material value be netted off from any financial arrangement. For simplicity and consistency with the approach for the solely return-to-retail scenario presented above, this material value is accounted for in the 'Materials revenue' benefits rather than netting it off from the 'LA materials revenue losses'.

Scheme costs

2.207 The following section describes costs that will be on the balance sheet of the appointed DMO. Costs incurred in retail are included here because retailers will be compensated via handling fees paid by the DMO on a per-item basis.

Retail return point costs

2.208 The scenario assumes that kerbside DRS collections are introduced in 2030 and 80 percent of DRS returns are collected at the kerbside and capacity required at retail return points is reduced accordingly. The DMO

will therefore work in collaboration with retailers to reduce the number of retail return points whilst maintaining reasonable proximity, consumer convenience, and ability to meet the targets set.

2.209 The reduced number of return points has a corresponding reduction on the overall costs for RVMs, maintenance, rental, handling, and opportunity costs. The summary cost table below shows savings that scale with the reduced volume of returns to retail in these areas when hybrid kerbside collections are introduced. Whilst this illustrates the maximum scale and pace of savings, there will be many factors that affect how quickly and to what extent these can be realised. For example, reducing the number of retail return points would need to be balanced with the proximity principle in the DRS regulations. This would require foreplaning in contract negotiations to ensure the return point network could be efficiently reduced, for example through shorter-term leasing agreements on RVMs. Whilst the practical scale and speed of such savings cannot be calculated at this stage, the hybrid collections scenario illustrates the potential savings in this regard within the appraisal window. With RVMs having an average lifespan of around 8 years, the worst case scenario would be for these savings to be realised in 2035.

Logistics

2.210 In this hybrid scenario DRS containers would be collected from both retail return points and kerbside collections. The approach to retail return point logistics is assumed to remain the same, making use of retail backhaul and then onward transport to DRS bulking and counting centres. The modelling accounts for the reduced number of retail return points in this scenario.

2.211 The kerbside logistics costs represent additional costs, primarily related to staff time and vehicles, for incorporating DRS items into existing local authority collections. For the purposes of the impact assessment, it is assumed DRS items are presented by the householder in reusable plastic crates which are loaded onto the collection vehicle. This will protect these items and ensure the highest rates of reuse in the future. Single-use plastic and metal drinks containers could be mixed and compacted on the vehicle, if needed, as the citizen will have already reclaimed their deposit (see section on Digital deposit returns).

Kerbside collection vehicle modifications

2.212 It is assumed that local authority vehicles are modified to carry the DRS materials. Whilst drinks containers are currently collected at the kerbside, under the DRS the glass and reusable containers must remain intact (uncrushed) and so will take up more volume on the vehicle. DRS items will also likely be collected in a separate container to the other recyclables.

2.213 The vast majority of Welsh local authorities now use the Blueprint Collection system, with weekly recycling collections. Operatives sort materials by unloading them into separate compartments on the vehicle. Further improvements to recycling services are expected to be delivered in the coming years in line with the new Collections Blueprint, which will see potential adaptations to local authority collection vehicle requirements. The long-term impacts of factors such as the EPR scheme for packaging, the inclusion of energy-from-waste facilities in the emissions trading scheme, and the collection of plastic film are all expected to inform recycling and waste collection and treatment decisions. These factors will be considered alongside any DRS requirements as local authorities respond to kerbside recycling needs in future years.

2.214 Local authority collection vehicles in Wales are primarily serviced by Romaquip or Terberg. These companies have been proven to be open to adapting vehicles to meet customer requirements in the past, for example reconfiguring the compartment sizes and arrangement as the collection requirements change.

2.215 The impact assessment assumes that more space would be required on each vehicle, as the glass and reusable DRS containers must be transported without compaction or breakage. An annualised cost of £430,000 is allocated for the modifications across the vehicle fleet, on the basis of a range of options from side mounted storage, custom steel lockers, or more heavy duty and integrated designs.

Bulking and counting centre costs

2.216 There is a change in net costs as a result of the changing material flows in the hybrid collections scenario. As more DRS material is collected at the kerbside, the costs at the retailer distribution centres decrease and some of the initial handling and bulking costs that would have occurred there are transferred to operations at the DRS bulking centres.

Fraud & leakage costs

2.217 In the hybrid scenario, it is assumed that serialised QR-codes are added to all containers to allow the citizen to redeem their deposit when using kerbside DRS collections (see Digital deposit returns, below). This technology also provides strong fraud prevention and so the fraud risk is reduced to essentially zero from 2030 in the model when the technology is introduced.

Direct producer costs

Digital deposit returns

2.218 Alongside the anti-fraud measure for glass described in the return-to-retail scenario, printer costs for serialised QR-codes on plastic and

aluminium drinks containers are added for the hybrid scenario, so that the consumer can redeem their deposit before presenting their DRS items for collection at the kerbside. The IT costs are also scaled to cover the full volume of DRS returns, on the assumption that RVMs and manual return points would also take advantage of the technology.

2.219 The printer costs presented for glass in the return-to-retail scenario were scaled by volume of drinks containers POM to estimate the costs for plastic containers. The estimate of £36.76 million capex for aluminium can printers from the 2021 Resource Futures study was uplifted to £2025 prices. Capex estimates were annualised based on a 5 year lifespan. Given the high replacement rate, it is assumed that 75 percent of the aluminium printer capex was additional costs over and above the replacement cost of printers in the baseline.

Societal costs

GHG (greenhouse gas) emissions

2.220 The improved logistics efficiencies are also reflected in the greenhouse gas emissions. Welsh local authorities already operate the efficient kerbside collections of other materials. The inclusion of DRS materials means fewer DRS materials flow through retail return points delivering an overall reduction in emissions from logistics.

Additional time to participate in DRS

2.221 Kerbside collection of DRS items provides more options and convenience benefits for most householders. The hybrid scenario uses serialised QR-codes so that consumers can redeem their deposit at the kerbside. Scanning the code on each drinks container was assumed to take on average one to five seconds using a smart phone, whilst recognising there will be significant variation amongst different users. However, kerbside collections require no additional ‘trip’ time, as described for RVM and manual returns such as the time for loading and unloading containers from a vehicle, walking to the RVM station, and occasional queueing.

Scheme benefits

Materials revenue

2.222 The uplift applied to DRS recycling materials prices is reduced by 10 percent for DRS material collected at the kerbside. However, if a pure stream of DRS materials is maintained, for example through a separate compartment on the collection vehicle or the deployment of the latest sorting technology at sorting facilities, then the material should command a higher market value than the mixed packaging groups most widely collected currently. For example, drinks containers are typically made from clear PET which is traded at a much higher value than mixed colour

PET, and aluminium cans are highly sought after for the quality of aluminium compared to aluminium foil and other types of aluminium household packaging. It should however be noted that the in the baseline scenario, recycling performance would continue to increase, and this will give improvements in the quality as well as the quantity of recycling as seen in Wales' progress to date.

Non-monetised costs and benefits of the hybrid collections scenario

2.223 The non-monetised costs and benefits are largely the same as the return-to-retail scenario. Potential additional costs and benefits are explored below.

Increased participation

2.224 The added consumer convenience of kerbside collections may naturally lead to improved participation in the scheme. This may support the DMO to reach the targets set, thereby reducing costs such as communication campaigns that are required to achieve the same targets in the return-to-retail scenario.

Summary of costs and benefits of the hybrid collections scenario

2.225 Estimates for each year are presented in the table below. These represent the change from the baseline scenario, i.e. the increase in costs or benefits resulting from the DRS. The net present value and benefit-cost ratio are calculated for the 10-year period. The results show that the benefits and cost savings of a hybrid approach are considerable and this is also reflected in the greenhouse gas savings in comparison to a return-to-retail only model. The results therefore reflect the benefits of utilising the efficient kerbside household collection in Wales.

2.226 The modelling explores a hybrid approach to collections for DRS materials, combining retail return points with local authority collections. The additional costs of kerbside collections are more than offset by reduced costs in retail return points and ultimately produce a more efficient system as reflected in the total financial costs and monetised greenhouse gas emissions.

2.227 This scenario presents a more innovative approach to delivering a DRS, which is fully tailored to Wales, making use of the flexibility provided by the regulations. As such, there are fewer real-world examples and studies to draw upon and so there is more uncertainty in the calculations and the estimated impacts. It also reflects a corresponding reduction in costs at retail return points that will depend on many factors in order to be realised at the scale and pace shown in the results. It is therefore presented as a scenario to illustrate a potential hybrid approach and the potential scale of benefits it could deliver.

All costs and benefits

Costs	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Return point infrastructure costs		£2.9 M	£11.5 M	£11.5 M	£2.2 M	£2.2 M	£2.1 M	£2.1 M	£2.1 M	£2.1 M
Return point & hospitality ancillary costs		£0.0 M	£0.1 M	£0.1 M	£0.3 M	£0.4 M	£1.0 M	£1.1 M	£1.2 M	£1.3 M
RVM maintenance costs		£2.1 M	£8.6 M	£9.6 M	£2.2 M	£2.3 M	£2.5 M	£2.5 M	£2.5 M	£2.5 M
Retail rental costs		£0.5 M	£2.2 M	£2.2 M	£0.4 M	£0.3 M	£0.2 M	£0.1 M	£0.1 M	£0.0 M
Retail opportunity costs		£0.7 M	£2.7 M	£2.7 M	£0.5 M	£0.5 M	£0.5 M	£0.5 M	£0.5 M	£0.5 M
Retailer handling costs		£3.3 M	£13.4 M	£15.2 M	£4.0 M	£3.9 M	£4.0 M	£3.4 M	£2.9 M	£2.4 M
Return point familiarisation and training		£0.2 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M
Logistics costs		£0.3 M	£1.3 M	£2.4 M	£1.6 M	£5.2 M	£14.6 M	£18.7 M	£22.7 M	£26.8 M
Kerbside collection vehicle modifications		£0.0 M	£0.0 M	£0.0 M	£0.4 M	£0.4 M	£0.4 M	£0.4 M	£0.4 M	£0.4 M
Bulking & counting centre costs		£0.7 M	£2.9 M	£3.6 M	£6.4 M	£10.9 M	£24.5 M	£27.1 M	£29.7 M	£32.3 M
Reuse infrastructure costs		£0.0 M	£0.0 M	£0.1 M	£0.2 M	£0.5 M	£1.3 M	£1.6 M	£1.9 M	£2.3 M
DMO administration costs	£2.4 M	£3.2 M	£3.3 M	£3.1 M	£3.1 M	£3.0 M	£2.7 M	£2.6 M	£2.6 M	£2.6 M
NRW compliance & monitoring costs		£0.2 M	£0.3 M	£0.3 M	£0.3 M	£0.3 M	£0.3 M	£0.3 M	£0.3 M	£0.3 M
Fraud & leakage costs		£0.7 M	£3.0 M	£3.0 M	£0.0 M	£0.0 M	£0.0 M	£0.0 M	£0.0 M	£0.0 M
Digital deposit returns		£0.0 M	£0.0 M	£4.5 M	£14.7 M	£14.0 M	£14.0 M	£14.0 M	£14.0 M	£14.0 M
Relabelling costs		£2.6 M	£0.0 M	£0.0 M	£2.1 M	£0.0 M	£0.0 M	£0.0 M	£0.0 M	£0.0 M
pEPR LA payment losses		£4.0 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M
LA materials revenue losses		£4.0 M	£16.2 M	£18.4 M	£20.7 M	£21.7 M	£22.7 M	£22.9 M	£23.2 M	£23.4 M
Trading Standards costs		£0.0 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M	£0.1 M
Societal costs - GHG emissions		£1.2 M	£5.0 M	£6.0 M	£2.0 M	£3.0 M	£5.9 M	£6.8 M	£7.8 M	£8.8 M
Societal costs - unredeemed deposits		£17.9 M	£71.5 M	£47.7 M	£23.8 M	£23.3 M	£14.4 M	£14.4 M	£14.4 M	£14.4 M
Societal costs - additional time		£2.9 M	£11.7 M	£13.4 M	£12.8 M	£14.2 M	£14.6 M	£14.6 M	£14.6 M	£14.6 M
Total	**£2.4 M**	**£47.7 M**	**£179.9 M**	**£169.9 M**	**£123.9 M**	**£132.4 M**	**£151.7 M**	**£159.3 M**	**£167.0 M**	**£174.8 M**

Benefits	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Materials revenue		£5.0 M	£20.2 M	£22.8 M	£25.5 M	£25.3 M	£23.4 M	£22.0 M	£20.5 M	£19.1 M
Unredeemed deposits		£17.9 M	£71.5 M	£47.7 M	£23.8 M	£23.3 M	£14.4 M	£14.4 M	£14.4 M	£14.4 M
Avoided pEPR producer fees		£4.0 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M	£25.9 M
Packaging material savings		£0.1 M	£0.2 M	£2.1 M	£2.2 M	£9.7 M	£28.4 M	£37.7 M	£47.1 M	£56.4 M
Reduced fraud risk in rest of UK DRS		£11.9 M	£47.7 M	£47.7 M	£47.7 M	£47.7 M	£47.7 M	£47.7 M	£47.7 M	£47.7 M
Avoided glass commercial recycling collections		£0.7 M	£2.8 M	£2.8 M	£2.8 M	£2.8 M	£2.8 M	£2.8 M	£2.8 M	£2.8 M
Litter clean up savings		£0.6 M	£2.4 M	£2.4 M	£2.5 M	£2.5 M	£2.7 M	£2.7 M	£2.7 M	£2.7 M
Avoided disposal		£0.2 M	£0.7 M	£0.8 M	£1.0 M	£1.1 M	£1.5 M	£1.4 M	£1.3 M	£1.2 M
Societal benefits - litter disamenity		£24.5 M	£98.0 M	£98.0 M	£98.0 M	£98.4 M	£100.3 M	£100.3 M	£100.3 M	£100.3 M
Societal benefits - avoided GHGs		£0.0 M	£0.1 M	£0.7 M	£0.7 M	£3.1 M	£9.2 M	£12.4 M	£15.7 M	£19.1 M
Total		**£64.9 M**	**£269.6 M**	**£250.8 M**	**£230.1 M**	**£239.8 M**	**£256.3 M**	**£267.2 M**	**£278.4 M**	**£289.6 M**

10-year NPV estimates (2025 prices, 2026 present value)	
Present Value Costs	£1092.7 M
Present Value Benefits	£1785.4 M
Net Present Value (NPV)	£692.7 M
Benefit:Cost Ratio (BCR)	1.63

GHG emissions - 10-year total	Tonnes CO2e
Transport	134000
Packaging	-171000
Net balance	**-37000**

Note: An increase in emissions is shown as a positive number and a decrease in emissions is shown as a negative number.

2.228 The sections below show who the costs and benefits fall to by grouping the estimates by stakeholder group. All values are presented in 2025 prices with 2026 as the present value base year and show the total estimated value over the 10-year policy appraisal window (2026-2035).

Scheme costs and benefits

Costs	10-year Present Value
Return point infrastructure costs	£34.3 M
Return point & hospitality ancillary costs	£4.3 M
RVM maintenance costs	£30.3 M
Retail rental costs	£5.5 M
Retail opportunity costs	£8.0 M
Retailer handling costs	£46.1 M
Return point familiarisation and training	£0.5 M
Logistics costs	£73.0 M
Kerbside collection vehicle modifications	£2.1 M
Bulking & counting centre costs	£108.9 M
Reuse infrastructure costs	£6.0 M
DMO administration costs	£24.7 M
NRW compliance & monitoring costs	£2.3 M
Fraud & leakage costs	£6.2 M
Total	**£352.2 M**

Benefits	10-year Present Value
Materials revenue	£153.7 M
Unredeemed deposits	£212.0 M
Total	**£365.7 M**

Summary	
Present Value Costs	£352.2 M
Present Value Benefits	£365.7 M
Net Present Value (NPV)	£13.6 M

Direct producer costs and benefits

Costs	10-year Present Value
Digital deposit returns	£72.1 M
Relabelling costs	£4.4 M
Total	**£76.5 M**

Benefits	10-year Present Value
Avoided pEPR producer fees	£176.1 M
Packaging material savings	£142.1 M
Reduced fraud risk in rest of UK DRS	£328.2 M
Total	**£646.3 M**

Summary	
Present Value Costs	£76.5 M
Present Value Benefits	£646.3 M
Net Present Value (NPV)	£569.9 M

Hospitality benefits

Benefits	10-year Present Value
Avoided glass commercial recycling collections	£19.3 M

Local authority costs and benefits

2.229 As explained above, the recycling revenue of DRS material that local authorities collect on behalf of the DMO has been accounted for under “scheme costs and benefits” for comparability with the return-to-retail scenario. It should also be noted that pEPR LA payment losses include pEPR payments for plastic and metal drinks containers, which were only written in to pEPR regulations as a backstop to cover the case of no DRS being launched.

Costs	10-year Present Value
pEPR LA payment losses	£176.1 M
LA materials revenue losses	£143.0 M
Trading Standards costs	£0.7 M
Total	**£319.9 M**

Benefits	10-year Present Value
Litter clean up savings	£17.5 M
Avoided disposal	£7.6 M
Total	**£25.1 M**

Summary	
Present Value Costs	£319.9 M
Present Value Benefits	£25.1 M
Net Present Value (NPV)	-£294.8 M

Societal costs and benefits

Costs	10-year Present Value
Societal costs - GHG emissions	£38.2 M
Societal costs - unredeemed deposits	£212.0 M
Societal costs - additional time	£94.0 M
Total	**£344.2 M**

Benefits	10-year Present Value
Societal benefits - litter disamenity	£681.8 M
Societal benefits - avoided GHGs	£47.1 M
Total	**£729.0 M**

Summary	
Present Value Costs	£344.2 M
Present Value Benefits	£729.0 M
Net Present Value (NPV)	£384.7 M

3. Competition Assessment

3.1 The following section assesses the impact of a deposit return scheme on competition within Wales. Competition is defined by the Competition and Markets Authority as a process of rivalry between firms which, where it is effective, encourages firms to deliver benefits to customers in terms of lower prices, higher quality and more choice. The main sectors likely to be affected by the introduction of a DRS are the production and retail of beverages, potential impacts in those sectors are considered in more detail below. On the basis of the assessment below, a DRS is not expected to have a significant impact on competition in Wales.

3.2 The competition filter test can be found in Annex A.

Producers

3.3 ONS data shows that there are around 145 businesses manufacturing beverages in Wales, with a large majority of those businesses employing less than 10 people. As can be seen from Table 14, more than half of the businesses are predominantly engaged in the manufacture of beer with the remainder distilleries, producers of cider or other fruit wines or producing soft drinks (including bottles water).

3.4 At the UK level, the majority of producers are classed as micro and small businesses although there are also a number of medium and large businesses in the sector. The manufacture of beer remains the largest sector, but there are also a large number of businesses involved in the rectifying and blending of spirits (for example for the Scottish Whisky industry) and the manufacture of soft drinks (including bottled water).

Table 13. Business count (local units) manufacturing beverages by employment size bands

	0-4	5-9	10-19	20-49	50-99	100-249	250+	Total
Wales	95	25	10	10	5	0	0	145
UK	1,810	430	320	220	80	55	45	2,960

Source: Office for National Statistics, 2025 data, Group 11.0 in 2007 Standard Industrial Classification (SIC)
Rounded to nearest five businesses, numbers may not sum due to this rounding.

Table 14. Business count (local units) manufacturing beverages by sub-sector

	Wales	UK
Distilling; rectifying and blending of spirits	40	1,015
Manufacture of wine from grape	0	50
Manufacture of cider and other fruit wines	5	95
Manufacture of other non-distilled fermented beverages	0	5
Manufacture of beer	85	1,325
Manufacture of malt	0	25
Manufacture of soft drinks; production of mineral waters and other bottled waters	20	445

Source: Office for National Statistics, 2025 data
Rounded to nearest five businesses, numbers may not sum due to this rounding.

3.5 The British Soft Drinks Association reports the UK soft drink market was worth around £22 billion in 2024. The market is supplied by drinks produced in the UK and imports. Carbonated beverages held the largest market share, followed by dilutables and bottled waters with 39 percent, 21 percent and 20 percent market share respectively. Fruit juices and sports/energy drinks make up the remainder of the market. The sector is made up of a small number of large multinational brands (for example, Coca Cola Europacific Partners, Britvic, AG Barr and Suntory) and numerous smaller producers.

3.6 During extensive industry engagement some stakeholders have raised challenges for small producers of drinks in glass bottles, particularly the relative cost of low production lines complying with DRS reporting, labelling and producer fees. Also, the potential impact of small brewers who do not currently put barcodes on their drinks being required to add a scheme return code for in-scope DRS items enabling the producer to be identified.

3.7 The legislation provides exemptions for the smallest product lines of all DRS materials. Product lines registered as “low volume lines” will be exempt from being deposit items, labelling requirements and producer fees. They must however still comply with producer registration and data reporting. Low volume lines are defined

as container drinks where the number of containers will not exceed 6,250 in the first scheme year, or 5,000 is subsequent years. There is a risk these exemptions may disincentivise growth, with some businesses preferring to remain below the thresholds rather than increase production to a point where they would need to fully participate in the scheme. However, the regulations provide some flexibility to enable producers to diversify their product line and not exceed the threshold. Low Volume Products are estimated to make up far less than 0.05 percent of in-scope drinks sold across the UK each year. This means it has not been considered proportionate to include in this impact assessment modelling.

3.8 A further exemption for glass containers was proposed in the public consultation for producers responsible for less than 25 tonnes of packaging per year. This matches the pEPR threshold for producers to be exempt from both reporting and fees and is intended to improve alignment for glass drinks container producers who are exempt under pEPR in the rest of the UK.

3.9 Stakeholders also raised the requirement to record how many drinks in glass containers are placed-on-market in Wales as opposed to elsewhere in the UK. However, this would also be required in the baseline scenario as producers are expected to submit nation of sale data under pEPR on packaging supplied on 1 January 2026 and thereafter.

3.10 Transition costs are expected to be in training and familiarisation, re-labelling products, set up of the DMO, and the purchase and installation of RVMs. It has been suggested that the labelling requirement may have a greater impact on producers who tend to bring products to the market for a limited period of time (for example, craft beer producers). However, label design will be a key part of marketing and selling each product and so complying with the requirements of the scheme is not considered likely to generate significant additional costs. The later transition to reuse will incur costs in modifying packaging production lines to manufacture reusable containers, modifications to filling lines and the installation of industrial wash lines.

3.11 Ongoing costs will take the form of the annual producer fee paid to the DMO to support the running of the scheme. While the scale of fees will be determined by the DMO, it is anticipated that the fee will be based on the number of units placed on the market and is not therefore expected to have a disproportionate impact on smaller producers. The fee will depend on a number of factors including the type of scheme introduced (e.g. return-to-retail or hybrid collections), the price received for the collected materials and the return rate achieved (and therefore the value of unredeemed deposits). Given the broad coverage of the scheme, it is likely that producers will be able to pass the majority of the cost on to consumers.

3.12 The scheme is not expected to result in additional costs to new or potential suppliers that existing producers do not have to meet. It is not expected to result in barriers to entry to the sector. Any prospective new entrant will already incur label design costs and, as set out above, ongoing costs are expected to be proportionate to the number of units placed on the market.

3.13 The sector is not characterised by rapid technological change. However, the legislation is expected to act as a catalyst for producers to introduce reusable drinks

containers at scale in the Welsh market. A nationwide scheme with a clear reuse pathway can stimulate supporting services such as standardised bottle design and wash facilities, with economies of scale. This can support smaller producers to benefit from the adoption of reusable containers, who may otherwise be left behind in a more fragmented approach.

3.14 The scheme does not directly restrict the ability of producers to choose the range, quality or location of their products. However, having different schemes operating across the UK could potentially see different labelling requirements for each scheme, which may introduce additional production and distribution complexities for producers.

Retailers

3.15 On the retail side, data specifically about beverage sales is not freely available at the Wales level. Looking at grocery sales as a whole, data from Kantar shows the main four supermarket chains (Tesco, Asda, Sainsbury's and Morrisons) continue to enjoy a strong position with over two thirds of the GB market. While 'discount supermarkets' such as Aldi and Lidl have increased their market share in recent years, none has more than roughly 10 percent of the grocery market. Smaller independent and 'symbol' retailers (franchises such as Spar and Nisa Local) have less than two percent share of the GB grocery market.

3.16 The introduction of a DRS is not expected to impact on competition in the retail sector or have a disproportionate impact on any group of retailers. The number and size of retailers is unlikely to be affected, and the scheme is not expected to result in any barriers to entry preventing new retailers from opening in Wales.

3.17 While there will be an upfront cost for familiarisation and training, this cost is expected to be low at the individual store level. Retailers will be able to decide whether to have an RVM in their store (or car park, if applicable) or whether offering a manual take-back service is more suitable. It is anticipated supermarkets and medium size retailers will opt for an RVM whilst smaller shops where footfall is lower or space is constrained are more likely to offer a manual take-back service.

3.18 Retailers can apply to be exempt from operating a return point on 'proximity grounds' if there are return points located within a reasonable distance and the exemption would not affect the DMO's ability to meet the collection targets.

3.19 Urban grocery stores that are smaller than 100m^2 will be automatically exempt from the requirement to operate return points, recognising the space limitations at these stores.

3.20 Feedback from international schemes has suggested retailers may benefit from participation in the scheme as it can increase footfall in the store. However, evidence has not been identified to corroborate this.

3.21 Retailers are expected to receive a handling fee from the DMO to cover the costs they incur in participating in the scheme.

4. Post Implementation Review

4.1 No more than 5 years after implementation, the Welsh Government will undertake an initial review of the statutory legislation. It will also assess any guidance produced under the legislation in terms of the usability, whether it reflects best practice and what revisions may be required based on the feedback. It will also consider whether there are any other issues that are affecting implementation.

4.2 The review undertaken will be used to determine the impact of the legislation on the industry and whether it has brought about the intended environmental and economic benefits in a Welsh context.

Annex A. Competition Filter Test

Q1: In the market(s) affected by the new regulation, does any firm have more than 10% market share?	Yes
Q2: In the market(s) affected by the new regulation, does any firm have more than 20% market share?	Yes
Q3: In the market(s) affected by the new regulation, do the largest three firms together have at least 50% market share?	Yes
Q4: Would the costs of the regulation affect some firms substantially more than others?	No
Q5: Is the regulation likely to affect the market structure, changing the number or size of firms?	No
Q6: Would the regulation lead to higher set-up costs for new or potential suppliers that existing suppliers do not have to meet?	No
Q7: Would the regulation lead to higher ongoing costs for new or potential suppliers that existing suppliers do not have to meet?	No
Q8: Is the sector characterised by rapid technological change?	No
Q9: Would the regulation restrict the ability of suppliers to choose the price, quality, range or location of their products?	No