

Assessing Deposit Return Systems as a model for waste picker inclusion in reuse and recycling

Taylor Cass Talbott / August 2026

A canner arrives at Coop Les Valoristes.
Photo by Coop Les Valoristes



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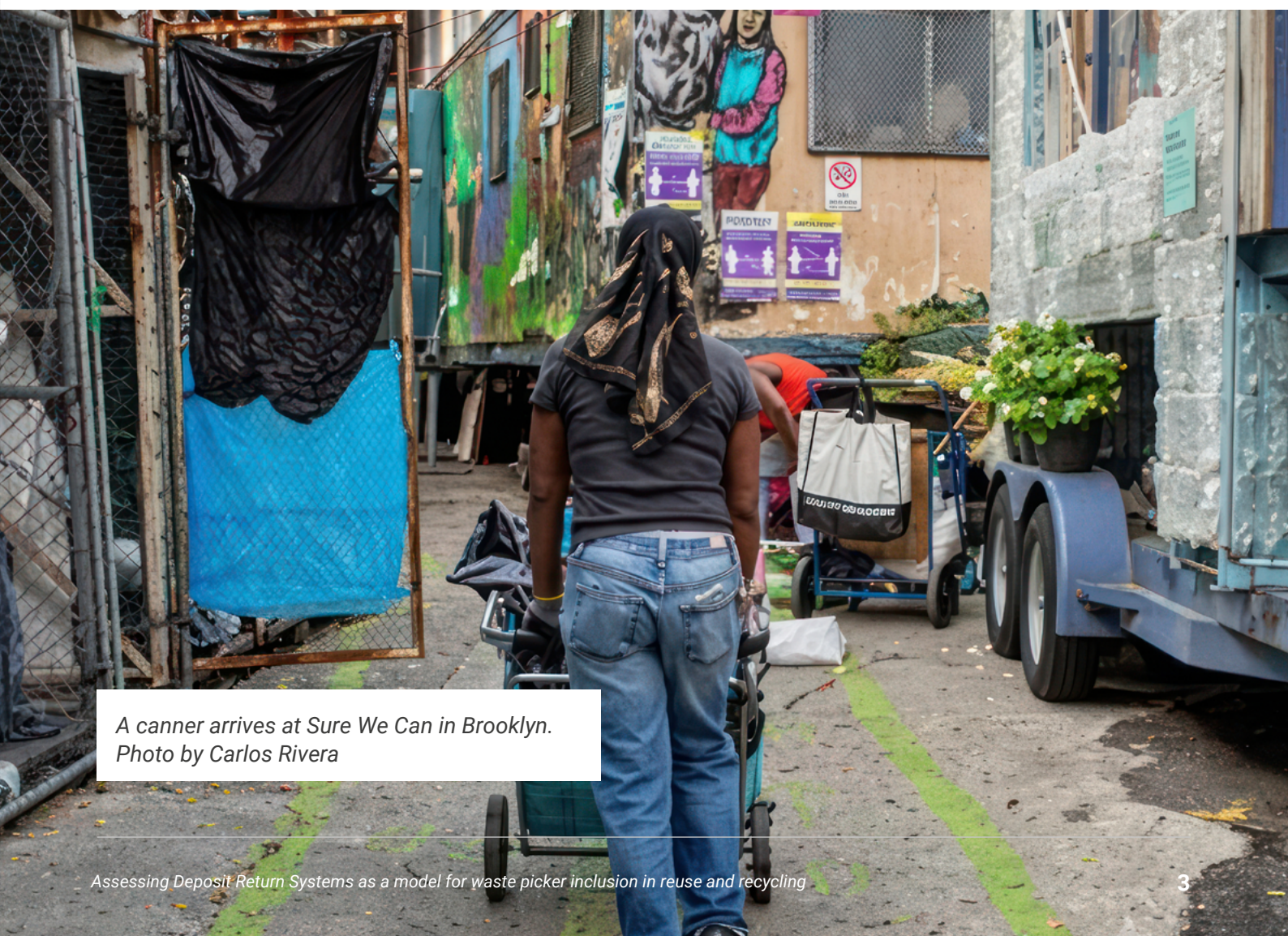
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*The People's Depot.
Photo: Taylor Cass Talbott*



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*A canner arrives at Sure We Can in Brooklyn.
Photo by Carlos Rivera*

Summary

Waste pickers are essential to the success of Deposit Return Systems (DRS) around the world, despite their lack of recognition within them. As DRS are increasingly looked at as a model for incorporating more reuse into materials management systems, this paper makes a first attempt at analysing the opportunities and shortcomings of DRS for waste pickers today, to assess its viability as a model for future reuse systems that effectively integrate waste pickers. Although DRS are essential for waste pickers in certain locations, particularly where waste management is highly privatised and consolidated, the study highlights the shortcomings of DRS in effectively integrating waste pickers into formal roles within recycling and reuse systems. It also points to the risk of DRS in introducing competition for waste pickers by tailoring recycling systems for consumers.

While this study uses examples from around the globe, it leans heavily on examples in the United States and Canada, which so far are the only countries where affiliates of the International Alliance of Waste Pickers have advanced into the operation of recycling depots under DRS. The challenges and opportunities that these organisations have faced in advancing in the value chain, while still protecting street waste pickers, have relevance beyond North America.

DRS come in many configurations. This study details several key characteristics that are of special importance to waste pickers in the design of DRS. The research finds that even where waste pickers have been included in national waste management legislation, DRS have generally been designed without consideration for or input from waste pickers.

Chapter 1 introduces the subject. Chapter 2 gives an overview of DRS, their role in reuse and aspects of primary concern for waste pickers. Chapter 3 concludes with a summary of the main challenges and potentials for DRS as a mechanism of both reuse and waste picker integration,

Chapter 4 offers recommendations that can be used by waste pickers or waste picker organisations in advocating for inclusive DRS, and can serve as an inspiration for policymakers and producers/distributors all around the globe.

The recommendations examine how to better ensure decent livelihoods and occupational conditions for waste pickers working in the informal economy. These include targeting low and no-value materials first, including more materials in the system, resisting full automation of systems, setting adequate deposit amounts and allowing informal collection at curbside and in public spaces/bins. Also, anyone returning materials should be eligible to receive the deposit or premium.

Furthermore, to leverage their potential to create pathways into more formal work for waste pickers, DRS should be designed to establish and sustain a diverse and geographically decentralised network of depots, giving priority to those social enterprise, cooperative, and non-profit depots with a mission to provide formal livelihoods for low-income or vulnerable employees. Producers and retailers should be the responsible parties for paying handling fees to these depots, with unredeemed deposits reinvested into the system.

Finally, to ensure system integrity and transparency, it is recommended that guidelines be mandated by the state, including forming an overseeing advisory committee and conducting regular system audits. Consistent, thorough and meaningful data collection is also important.

Most significantly, waste picker organisations should be consulted at all stages of the development of DRS, and waste pickers should be mentioned and defined in policy.

1. Introduction

Rising global attention to the problem of plastic pollution, especially from single-use plastics, has sparked a slow but growing shift towards reusable packaging and products. This growing concern is beginning to be reflected in policy through single-use plastics bans and Extended Producer Responsibility policies that set targets and funding for reuse. The International Alliance of Waste Pickers supports this ambition as long as waste picker livelihoods are preserved through the transition to reuse. This means ensuring low-barrier entry points to both accessing and commercialising materials, while also generating pathways to more decent and formal work¹. While reuse is purported to generate more livelihoods than recycling or disposal (GAIA, 2021), few reuse systems being piloted and implemented around the world today are designed to incorporate or even accommodate waste pickers².

Deposit-Return Systems (DRS) are widely recognised as a way to help close material loops to promote a more circular economy (Watkins et al., 2019), including in the promotion of reuse. Refillable glass beverage bottles remain one of the only types of packaging that weathered the mass shift towards disposables that started in the 1960s, and waste pickers have remained active in their collection in many parts of the world. Refillable bottles are present in at least 94 countries (Schroeer, Littlejohn & Wilts, 2020), and cover a significant share of beverage sales in several countries³. Many of these bottles are returned through some type of formal or informal DRS, and DRS has shown to increase the return of refillable glass bottles (Eunomia & University of Western Cape, 2024).

Reuse is commonly referenced alongside growing legislative momentum to tackle plastic pollution, both at national and local levels, as well as internationally through processes like the UN Plastics Treaty negotiations. DRS have potential for achieving high material recovery rates, even under inefficient municipal collection systems, and, at least in high income countries, have shown to increase recycling rates (Sidorczuk-Pietraszko et al., 2025; Ashenmiller, 2009). Oceana estimates that a 20% switch to reusable beverage containers could cut ocean plastic pollution by 39% (Oceana, 2020). DRS are consistently presented as a means of addressing plastic pollution, as well as for expanding the market share for refillable bottles and incorporating other materials like takeaway food packaging. DRS that involve waste pickers have also shown to reduce litter (Ground Score, 2025; Bordeleau, 2014; Millette, 2025). But whether or not these models are, or can be, meaningfully inclusive of waste pickers - both individuals and their organisations - is a question that demands deeper inquiry.

¹ In line with the Transition from the Informal to the Formal Economy Recommendation, 2015 (No. 204), formalisation can include, among other elements, access to social protections, registration linked to benefits, access to collective bargaining and labour protections, and access to contracts, land and infrastructure.

² The International Alliance of Waste Pickers defines waste pickers as: individuals involved in the collection, segregation, sorting, and sale of recyclables (paper, plastic, metal, glass, etc.) in an informal or semi-formal capacity as own-account workers, including reuse workers; Itinerant waste pickers, informal/semi-formal waste collectors engaged in transporting, sorting, and selling recyclables, informal workers engaged in transporting or sorting within the informal or semi-formal sorting/recovery/recycling sector, or any of the above who are integrated into municipal waste management systems and continue to sort and sell recyclables; Former recyclers who occupy new roles in their recycling organisations in environmental promotion, caregiving, health programs, gender programs, etc.

³ In Germany, 82% of beer is sold in refillable bottles, with 99% returned for refill, and 54% of beverages overall are sold in refillables; In Ontario, Canada, 85% of beer is sold in refillable bottles, with 97% returned; Refillables account for a large share of beverage sales in Mexico (27%), Columbia (54%), Brazil (24%), China (22%), Vietnam (31%), Thailand (20%), India (34%), Nigeria (43%), and the Philippines (59%) (Upstream, 2023, p.1).

2. Deposit Return Systems (DRS)

A Deposit-Return System, also known as a Deposit-Refund System or Scheme, is a materials management framework in which consumers pay a monetary deposit on products/packaging, which can be redeemed at designated collection points when the empty packaging is returned. DRS have existed formally in policy since the 1970s, though the practice of placing deposits on refillable glass containers long preceded policy. Today, DRS policies exist across much of Canada, Eastern and Northern Europe, some United States states, most of Australia, as well as Ecuador, parts of India, Seychelles, and Israel, among others. Policies are currently under development in a growing number of countries, including Turkey, Uruguay, Malaysia, and the Philippines.

Most of the two trillion beverage containers produced around the world are not recycled (Radke et al., 2025), let alone reused. DRS is frequently applied to increase recycling rates. Under the EU Packaging and Packaging Waste Regulation (PPWR, Regulation (EU) 2025/40), EU Member States must achieve a 90% separate collection rate by weight for single-use plastic beverage bottles and metal beverage containers by January 2029. DRS is recommended as the way to achieve such a separate collection rate since no EU country has gotten close to 90% with other collection systems. The Regulation also prescribes that Member States consider DRS for reusable packaging.

DRS were initially cemented in policy as a litter abatement measure, in response to the rise of disposable beverage packaging in the 1950s and 1960s, as aluminium and glass became more available after the Second World War. DRS are frequently touted as one of the most effective means of incentivising the prevention of litter (Millette, 2025). This is well-founded. A container deposit in South Australia led to a threefold reduction in the number of beverage containers littered on beaches (Hardesty et al., 2014).

In the United States in the 1960s and 70s, consumers responded to growing litter of disposable packaging by demanding a return to reusable packaging. To avoid this, producers invested in Keep America Beautiful campaigns (Keep America Beautiful, n.d.) and related initiatives that mobilised volunteers to collect litter, in an effort to erase the visual symptoms of the problem. Similar stories played out in places like Sweden (Johansson, 2024a). While producers were not ultimately successful in resolving the problem of litter by mobilising volunteers, they have been largely successful at skirting full financial responsibility for the collection of their packaging and products from the environment.

More recently, DRS also have been applied to increase recycling rates. In Ecuador, for example, the 2011 introduction of a deposit on PET beverage bottles improved recycling rates, increasing PET recycling rates from 30% in 2011 to 80% in 2012 (Watkins et al., 2019). When the price for a material is not enough to incentivise its collection, DRS can fill the cost viability gap. This is not to say that such impacts cannot be achieved without DRS, however. Brazil, which boasts an enormous network of waste pickers working both formally and informally, lacks a DRS and yet maintains a near 100% recycling rate for aluminium cans sold in the country (Abraletas, 2024). DRS has also shown to have important social impacts, some of which are covered in following sections, including in the reduction of petty crime (Ashenmiller, 2010).

DRS for other products

Most DRS cover beverage containers, but systems covering other products exist around the world. In some places, deposits also exist on hazardous and hard-to-manage waste like tyres, mattresses, electronic waste, batteries (Wu et al., 2025) and even specialised products like mushroom baskets (Reloop, 2025). Some European countries are exploring DRS for textiles (Smith, 2026). A growing number of companies, particularly across Europe and North America, implement deposits on reusable takeaway packaging like cups, yoghurt pots and food boxes. In 2014, Nepal even attached a \$4,000 deposit on Mt. Everest climbing permits, requiring a certain amount of waste to be returned after the expedition in order to receive the deposit return; the system was scrapped in 2025 for its failure to prevent littering at high altitude base camps (BBC News, 2025). In general, the successes and challenges of DRS for products other than beverage containers are underdocumented. Some of these operations are linked to a user account, which may require formal identification and, in many cases, a bank account. Others require the material to be returned to specific sites, making them less accessible or desirable to intermediate collectors like waste pickers.

Some systems that look similar to DRS actually provide incentives rather than a deposit return. In La Réunion, an island region of France, producers have placed a premium (often called a bounty) on reusable glass bottles and takeaway containers - so even though consumers don't pay a deposit on this packaging, they can receive a payment by returning it to designated locations. This system is likely to shift to a DRS in the coming years, as EU policy pushes in that direction. Similarly, in North Macedonia, an EPR-driven mechanism operated by Pakomak (a packaging management company) includes reverse vending machines that exchange empty beverage containers for shopping vouchers, payment of select public services or donations to charitable causes⁴.

2.1. DRS and Reuse

DRS policy was preceded by DRS practices, with deposits placed on refillable glass beverage bottles that could be returned to local retailers or bottle buyers (Upstream, 2023). Most of these systems have ultimately been undermined by the relative affordability and convenience of selling products in disposable packaging rather than collecting, washing and refilling glass bottles.

For example, Swedish DRS on beverage containers began in 1886, and was not able to prevent the displacement of reusables by disposables. Between the 1960s and 1980s, the refillable system coexisted with disposables until Sweden became a member of the European single market in 1995 and lost its import monopoly on alcohol, as well as the right to bottle imported beverages in standardised refillable bottles (known as Stockholm Bottles). The glass bottle return system also had thin margins throughout the value chain, making it hard to sustain financially. Thus, the introduction of disposables increased profits in beverage sales, especially with the introduction of PET plastic bottles, which enabled retailers to increase the price per litre on soda by 100% (Johansson, 2024a). In the United States, refillable bottles have also declined precipitously since the 1960s, though refillables have held on better in states with DRS than in those without (Container Recycling Institute, n.d.).

As the world responds to the growing plastics pollution crisis, environmentalists' calls for a return to reusable packaging often reference DRS as a viable model for reuse (Upstream, 2026; Reloop, 2026) and demand mandatory provisions. In some cases, this already exists. Under Chile's single-use plastics law (Ley 21.368), supermarkets must ensure that 30% of beverages displayed for sale be in reusable formats. Austria was the first European country to introduce binding national targets for refillable beverage packaging aiming for 25% by 2025 and 30% by 2030. The German Packaging Act (Verpackungsgesetz) also encourages DRS for refillables, which comprise 42% of the beverage containers collected through the system (TOMRA, 2026).

⁴ Conversation with Arijan Toska of the Macedonian Business Resource Centre (MBRC) on June 16, 2026.

Most existing DRS for reusables, though, are industry-specific, voluntary systems operated by producers (Laubinger et al., 2022). Private systems in many parts of the world place informal deposits on materials like reusable cups in parks and venues, and pilot projects and small enterprises are popping up to facilitate deposit or registration-based systems for reusable takeaway containers and other serviceware. But because these systems are small-scale and fragmented, they may not serve as viable models for scale. At the same time, DRS on disposable containers can face economic challenges for different actors in these systems. Relying on DRS to inform new packaging systems could result in systems that are economically unviable, exclusionary of waste pickers, or simply underwhelming in terms of actual material impact. That said, it is important to understand the challenges and opportunities of current DRS in order to inform a future of more ethical and inclusive reuse and refill systems.

Around the world, companies are reducing their ambitions for reusable packaging systems (Gordon, 2023), and notable reuse champions like Chile's famed Algramo are faltering (Gutiérrez, 2025), as well as resisting standardisation that is necessary for reuse at scale (Reloop, 2026). Nevertheless, the transition toward reuse is likely to continue in the long term, though the economic integration work required to prepare for it is slow. Weaker actors in materials management systems, notably waste pickers, should therefore prepare for a future scenario in which reusables, especially packaging, dominate materials markets.

Challenges of modern reuse and refill operations for waste picker inclusion

Many reuse and refill systems are linked to user accounts, so consumers would be less likely to hand products over to a waste picker or other third-party collector for return. Some systems may be designed to refund only to an account holder. A very high deposit on a product or packaging can have the same effect, since consumers may be reluctant to give up a valuable deposit to someone else. Some reuse systems, especially in refill, also consolidate production, collection and transportation under a single operator, reducing market diversity and cutting out lower-resourced actors like waste pickers. DRS, in which the deposit is available to anyone who returns the container, could be considered a more inclusive alternative to consolidated or account-based systems.

There are innumerable words used to describe waste pickers who work under Deposit Return Systems around the world, including:

- Canners (much of the USA)
- Professional Recyclers (Newfoundland and Labrador, Canada)
- Binnars (British Columbia, Canada)
- Independent Recyclers (New York City, USA)
- Deposit Pickers (Sweden)
- Valoristes (Quebec, Canada)
- Pfandsammler / Pfandsammler*innen (Germany)
- Bin-pickers or Super Collectors (Australia)

2.2. DRS and waste pickers

DRS, and the broader subject of Extended Producer Responsibility, is of growing concern to waste pickers around the world, especially now that these models are expanding rapidly in the Global North and South alike (Cass Talbott et al, 2022). Despite glaring gaps in data, waste pickers are instrumental to DRS (Johansson, 2024; Eunomia & University of the Western Cape, 2024). For waste pickers, at least, DRS can help reduce inequality, and reducing inequality can have positive macroeconomic effects (Ostry et al, 2014).

DRS are an example of systems in which the inclusion of waste pickers usually means that they can (informally) recover and commercialise materials. But these systems almost never integrate organised waste pickers into formal system operations, nor do they generally recognise waste pickers within legislation.

In countries with existing viable markets for the informal collection and sale of materials, DRS can present a threat of competition for waste pickers: by installing a deposit-based financial mechanism, and by tailoring collection points to the needs of consumers rather than waste pickers, consumers and other actors are more motivated to return materials for refund. This can create competition for waste pickers and the broader informal reuse and recycling value chains that otherwise provide opportunities for upward social and economic mobility.

However, especially in places where the waste and recycling system is highly privatised and consolidated, where commercialisation of materials requires the amassing and storage of large quantities, or where the price for selling recovered materials is excessively low, DRS can create and sustain important entry points for waste pickers into recycling and reuse systems. In places with DRS where waste pickers are organised, like the US, Canada and Ecuador, waste pickers have advocated for the protection and expansion of DRS.

While DRS have provided income for waste pickers working informally in the collection of materials, they have had less impressive results in ensuring organised waste pickers have the opportunity to participate in the formal implementation of the system, such as in the operation of depots, transportation, washing of reusable bottles, or community education. Among 59 organisational affiliates of the International Alliance of Waste Pickers, just 3 are directly involved in the operation of any formal aspect of DRS - in these cases, through the operation of depots. All three are located in the United States and Canada. In each case, workers struggle to generate decent earnings, and the organisations face challenges in sustaining depots. These include low and outdated rates for compensating depots, increasing costs of land and rent, complex zoning rules for depot siting, corporate undermining of the system at large, weak bargaining power, and neighbourhood resistance to depot operation amid rising social issues such as homelessness. At the same time, all affiliates of the International Alliance of Waste Pickers in North America were born out of the operation of depots under DRS, demonstrating the importance of depot operations in the organising of waste pickers in the region.

Waste pickers, who are prolific collectors, are critically important to the success of DRS (Johansson, 2024), despite the lack of research documenting their contribution in most places. For example, Germany, where more than a million waste pickers, or around 1% of the population, are active in collecting deposit containers, has a 98% recovery rate for beverage containers (Pfand gehört daneben, 2025). A 2014 study in Montreal, Canada found that 38% of beverage containers collected by waste pickers for recycling came from the trash cans or the ground, and thus otherwise would not have been recycled (Bordeleau, 2014). A 2025 study by Ground Score Association found that about half of canners surveyed collect containers from public and private trash cans and 66% collect littered cans from the streets and the environment (Ground Score Association, 2025).

The few studies that do exist on waste pickers in DRS consistently show the importance of waste picking as a survival strategy (Chikowore & Kerr, 2020) and that waste pickers predominantly spend the earnings from these systems on basic essentials like housing, medication, toiletries and utilities (Ground Score Association, 2025; Harvey et al., 2023) and to complement social assistance (Gutberlet et al, 2021). For some waste pickers collecting materials under DRS, this activity is a significant, and sometimes sole, source of income (Ground Score Association 2025; Eunomia & University of Western Cape 2024). Unsurprisingly, waste pickers under

DRS face disproportionate barriers to formal and scheduled work and temporary or permanent exclusion from the labour market (Gutberlet et al, 2022). Many of those surveyed in North America live with mental and physical disability and struggle to find other employment (Ground Score Association, 2025; Harvey et al., 2023). Thus, waste picking in this context can be seen as an occupation that both fills critical gaps in recycling systems while also generating work that is accessible to people with some of the highest barriers to formal employment.

Rising automation, including Artificial Intelligence (AI), across recycling economies around the world is disrupting jobs in recycling collection and sorting, which is otherwise one of the most accessible steps out of informality for waste pickers. Despite the fact that the informal economy is growing around the world, the nature of informality is also increasingly subject to automation - evidenced by the growing prevalence of digital labour platforms. Furthermore, in high income countries where DRS are more common, low-barrier informal work, such as street vending and waste picking, tends to be more regulated or prohibited and, as a result, often not financially viable enough for a person to sustain housing and basic necessities. This results in a growing need for flexible, transitional and safety net jobs, especially in places where alternative low-barrier work options, or jobs in general, are lacking.

That many people who pick waste would prefer to be doing other work (Ground Score Association, 2025) demonstrates the importance of waste picking as an economic safety net, but also the need for such systems to include realistic pathways to formalisation. Formal work within waste management can include employment in the management of system operations, such as depot operation, transportation, or bottle washing. However, not all waste pickers can adapt to all the requirements of most formal work, such as fixed working hours. Thus, waste picker groups around the world tend to advocate that informal entry points into the system be retained, and that formalisation focus on non-mandatory incentives such as registration with linked benefits, and support for worker organising. Furthermore, formal work for waste pickers in systems operation usually necessitates inclusive management approaches and accommodations, and hence is usually best overseen by waste picker organisations.

The reality, though, is that DRS, like the rest of the economy, is subject to rising automation, which can put waste pickers at a growing disadvantage (PNWWA, 2026), depending on how automation is used - not just in limiting opportunities for advancement in the value chain, but also by increasing competition with the general public over the collection of materials. In Newfoundland and Labrador, Canada, for example, the automated Xpress collection system offers convenience for consumers to such a degree that it is believed to have increased consumer redemption at the expense of waste pickers' access to materials (Vryenhoek, 2026). This is not to say that automation necessarily improved material recovery, it simply impacted *who* recovered and returned those materials. However, in this example, once containers arrive at a depot, hands-on labour is still required to ensure they are handled appropriately, creating some low-barrier jobs, often for individuals with few other options in the formal job market. The best way to navigate these challenges and ensure waste pickers retain access to materials and gain formal opportunities is to ensure waste pickers are both considered in systems planning and implementation and have a genuine voice in influencing DRS policy.

2.3. Recognition of waste pickers under DRS

Waste pickers existed in recycling systems long before the introduction of DRS, yet DRS design and documentation has largely failed to account for them. They remain generally unrecognised in policy worldwide - particularly DRS policy - despite consumers being frequently defined and mentioned (Abussafy, 2025). Even in places like India, where waste pickers are numerous and organised and waste management law mandates their integration, waste pickers are not referenced or prioritised in DRS planning (Alliance of Indian Waste Pickers, personal communication, 2024).

Despite DRS, and recycling in general, relying heavily on waste pickers, the legality of whether a person can remove materials from public and private waste bins varies. In Portland, Oregon, United States, the waste

picker organisation Ground Score Association influenced a change in city code that legalised the collection of beverage containers from private waste bins when placed curbside. Enforcement was rare when it was not legal to collect cans and bottles from private waste bins, and even after the change in city code, most people, waste pickers included, do not know whether the practice is legal or not.

In 2025, Ground Score Association supported a bill (SB992) to modify Oregon's DRS to grant legal recognition for depots like theirs as "alternative access redemption centers (AARC)", serving waste pickers ("daily redeemers"). The provision enables AARCs to be funded by both retailers and distributors while relieving retailers of the obligation to accept returned cans and bottles. Despite early commitments from both retailers and distributors to support Ground Score's People's Depot as an AARC, retailers ultimately failed to mobilise enough support, especially from large retailers that opted instead to finance automated systems. The inclusive provision remains unfulfilled as of the publication of this study (Mongeau Hughes, 2026). A potential factor leading to the unravelling of the agreement was local government's insistence that the AARC project fund behavioral health unit policing around depots, which increased the budget by 50%. The decision to require police funding is a reflection of the growing stigmatisation of waste pickers, resulting from the unabated rise in homelessness and open drug use. While the bill would have increased the formalisation of organised canners within the system, it wasn't created with this original intent. Rather, it was designed primarily to relieve large retailers.

Despite the faltering of the AARC as of the writing of this study, distributors organized under The Oregon Beverage Recycling Cooperative (OBRC) nevertheless increased their investment in The People's Depot, and are in the process of helping move it indoors to a warehouse, away from its current site under a bridge. Furthermore, the change in law does recognize waste pickers, as "people who redeem containers on a daily or near daily basis," and opens up a pathway for a possible AARC in the future. Ground Score's success and participation in working groups and exchanges related to DRS in Oregon over the years has helped build political interest in recognizing waste pickers in the system, as has their growing partnership with OBRC.

Uruguay's Extended Producer Responsibility law speaks to the integration and training of waste pickers, despite only supporting a fraction of the country's waste pickers (Matonte-Silva & O'Hare 2022). This system is being replaced by the Plan Vale⁵ that includes a system in which there is reference to waste pickers. It states that "a positive aspect of the system is that it permits the inclusion of former waste pickers, as much in the processing of materials in treatment plants as in the logistics of manual handling" (author's translation). However, it neglects to include waste pickers in the list and map of involved actors. Waste pickers were not consulted in the development of Uruguay's DRS, and have not been involved in the implementation of it⁶.

In Ecuador, there is no tacit recognition of deposit systems for waste pickers. However, the law on the inclusive circular economy, the General Regulatory Framework for the Circular Economy and Recycling in Ecuador, recognizes waste pickers as key actors throughout the entire supply chain and within the various container and packaging recovery systems. The DRS in Ecuador is the Redeemable Tax on Non-Returnable Plastic Bottles (IRBP). As detailed in Vitera (2022), the system levies a USD\$0.02 (two-cent) fee for each beverage produced or imported in a PET plastic bottle⁷. This fee is remitted to the government by bottlers/importers, and included in the retail price for the beverage. However, while the Act says the two-cents "shall be fully reimbursed to whoever collects, delivers, and returns the PET plastic bottles"⁸, an individual or organization must be registered and authorized by the relevant Ministry to receive the refund. Vitera explains that the requirements to register, qualify and receive the refund are so complex and onerous that only large recycling companies can typically manage it. This system was not originally designed to compensate waste pickers, but

⁵ <https://www.ciu.com.uy/novedades-ciu/plan-vale/>

⁶ Conversation with Luis Catalano, president of UCRUS, on July 17, 2026.

⁷ <https://www.sri.gob.ec/impuesto-redimible-botellas-plasticas-no-retornables>

⁸ Art. XX. Rate: "For each plastic bottle taxed, the tariff of up to USD 0.02 shall be exacted. This value shall be fully refunded to whoever collects, delivers, and returns the bottles..." As cited in Vitera, 2022, p. 7.

rather to increase recycling targets. Although Ecuador has a number of waste picker organizations, including a national movement, none are among the few players who receive the refund. Thus, individual waste pickers sell the bottles they collect to intermediaries for a fraction of the two-cent refund (Vitera, 2022).

In India, waste picker integration is mandated under the country's Solid Waste Management Rules and waste pickers are now managing many systems established by public authorities, but these systems are not included in DRS plans, making waste pickers apprehensive that DRS will displace them (Alliance of Indian Waste Pickers, personal communication, 2024).

In Western Australia, employment opportunity for marginalised workers was an intention of the DRS⁹ from the outset, although the law does not reference waste pickers. While social benefits were clearly articulated as part of the scheme, they sit in policy commitments rather than in the Act, Regulations, or Deed itself. State Environment Ministers have been consistent and specific in their public statements¹⁰ about the intended and actual employment benefits for First Nations Peoples, the Long-Term Unemployed and People Living with a Disability. However, neither State Environment Ministers nor the website of the [WAARL](#), the organisation established to operate the DRS, report on employment for the Long-Term Unemployed in a disaggregated way.

2.4. Key characteristics of DRS for waste pickers

DRS come under many different configurations. Several key characteristics are of special importance to waste pickers.

Deposits

The size of the deposit has a considerable impact on the success of a DRS in recovering materials for recycling and reuse, with higher deposit-refund amounts tending to result in higher return rates (Reloop, 2024). In most instances, the deposit places a premium on the materials that is significantly higher than the market rate. However, in general, deposit amounts have not kept up with inflation (Eunomia & University of Western Cape 2024), falling far behind inflation rates for decades. Nonetheless, deposits are effective and can also enable reusables to compete with disposables in the market (Container Recycling Institute, n.d.).

Some policies mandate an increase in the deposit if the return rate drops below a certain percentage. Switzerland charges an advance user fee on cans and bottles, and only gives that user fee back to consumers as a refundable deposit if the overall return rate for empty cans and bottles drops below a certain percentage (Ordinance of 5 July 2000 on Beverage Containers). This recognises the added incentive that a deposit, versus a fee, carries.

Defining how big a deposit should be in order to compensate for a decent hourly rate for waste pickers is a complex matter. In the United States, New York's 5-cent deposit and Oregon's 10-cent deposit, for example, result in similarly low hourly earnings for waste pickers surveyed in New York City (\$5/hour) and Portland (\$7.68/hour) (Harvey et al., 2023; Ground Score Association, 2025). In both estimates, waste pickers earn less than half the minimum wage of those states, and this is likely the norm across DRS. In Germany, where the deposit is relatively high and varies based on the size and material of the container, there appears to be a very large number of waste pickers (known as Pfandsammler or Pfandsammler*innen), who collect less material per person (Pfand gehört daneben, 2025) when compared with those relying on DRS in the US and

⁹ Western Australia's DRS is part of its [Waste Avoidance and Resource Recovery Act of 2007](#).

¹⁰ <https://www.wa.gov.au/government/media-statements>

Canada. Factors like the availability of public social protections, such as healthcare and housing, can also dictate the degree of need for waste picking. However, a high deposit can also mean greater competition with consumers, as suggested by the country's high return rate.

A deposit serves as a price floor mechanism that can buffer against the price fluctuations inherent in recycling markets. At the same time, the per-unit deposit of DRS also changes how the materials are handled in the value chain. In the market, materials covered by DRS tend to be handled differently from materials that are sold by weight, where selling larger quantities of scrap usually attracts a higher purchase price. Many waste picker organisations around the world began their organising as a way to sell materials collectively and increase income. However, under DRS, income is based on per-unit returns and earning more from bulk sales is rarely a possibility at the level where waste pickers are operating. Thus, the per-unit value under DRS may deter workers from collectively organising without any added service, such as storage depots which can reduce logistical costs.

Still, waste pickers in places where DRS are already in place tend to advocate for it. Between 2022 and 2023, when Ecuador was debating the renewal of its DRS, PET prices dropped by 40%. This forced waste pickers to advocate for the renewal of the system, despite the fact they do not structurally benefit from it through the operation of formal aspects of the system (Valencia and Saltalippi, 2026).

In Vancouver, Canada, waste pickers from the Binnors Project have been advocating for more than a decade for the inclusion of coffee cups in DRS through their annual Coffee Cup Revolution, which puts a privately-funded deposit on coffee cups for one day. Ultimately, the hope for including single-use coffee cups in DRS waned under the reality that coffee shops might have to keep their unused cups under lock and key if they carried a deposit on par with other beverage containers. This highlights the challenge of DRS systems in assigning a deposit that is high enough to incentivise collection, but that doesn't exceed the price or easy availability of new material, such that a market is created for the return of unused packaging that hasn't had a deposit placed on it.

In places where organised waste pickers are already collecting and selling materials for income, they tend to resist DRS policies because it introduces competition from consumers, who are more motivated to return materials when they receive a refund, and when collection points are tailored to consumers. Increasingly, DRS include automated machines at grocery stores or depots to receive individual or bulk beverage containers, which can be appealing to consumers, but more intimidating and time-consuming for waste pickers than a scrap shop would be.

In Goa, India, waste pickers and other stakeholders resisted the entrance of a DRS policy because it would motivate consumers and other workers to collect or save their own packaging. As a consolation, the government of Goa included a low-value material multilayer packaging (MLP) in the deposit system, which began rolling out in 2026 after delays due to sustained resistance from waste pickers, opposition parties and other community stakeholders (The Goan Network, 2026). It is unclear how this will work or whether the addition of MLP will cancel out earnings lost from beverage containers. The system is being designed as a digital system, likely involving digital payments and automated sorting technology, both of which are likely to present barriers to the participation of waste pickers.

Whether a deposit is high enough to result in a living or minimum wage equivalent for waste pickers can be influenced by a wide range of factors, including: housing density, the convenience of redemption sites, limitations on how many containers can be returned per visit or per day, cost of living and poverty rates, competition from existing reuse and recycling value chains, whether materials sold in bars and other venues carry a deposit, how many products are covered under the system, and the degree to which public and private waste bins are "containerised" (locked from the public).

Handling Fees and System Operation

Some DRS operate under a Return-to-Retail model, meaning that products can be returned to the retail establishments, like grocery stores, where such products are purchased, while others operate under a Return-to-Depot model. Some include a combination of the two.

In places like North America and Uruguay, the operation of depots and reception points has become one of the primary activities around which waste pickers organise under DRS. But depot operation is fraught with challenges, including the need for formalisation, access to land and related permits, and the economic challenges of sustaining depots under DRS in the context of declining affordability. In Uruguay, waste pickers have long been critical of the EPR for packaging law that alleges to be inclusive. While the law has inclusive elements, it only incorporates a small fraction of the country's waste pickers (Matonte-Silva & O'Hare 2022). The system is now being updated to include a DRS, which will be a partially automated return-to-retail model that risks diverting valuable materials away from waste picker depots and collection systems (Eunomia & University of Western Cape, 2024).

In the case of Ecuador, the refundable bottle system, which is administered by the National Internal Revenue Service (SRI in Spanish), is structured as a tax but functions like a deposit system, returning the tax to PET processing industries, which are then responsible for refunding the entire tax. In practice, the system faces traceability issues, including the duplication of records and illegal transboundary movement of materials, along with other problems. Among the system's shortcomings, waste pickers are limited to selling directly to industry intermediaries due to regulatory conditions, which results in the refund being paid to the intermediary. The latter, in turn, does not have to return the refunded tax to the waste picker who actually recovered the material (Viteri, 2022).

Usually, the operation of depots is not possible without either producer/distributor-run systems, or else some type of mandated handling fee within the system to support system operators. Handling fees differ depending on material type, collection method (manual or automated), collection point type, and whether containers are processed or commingled/mixed (Reloop, 2024a). While automation is conceivably less expensive in terms of labour, automated DRS can tend to carry a higher handling fee because the automation also processes materials (thus adding value) - for example, materials crushed in a reverse vending machine and already digitally counted, versus those that are bagged whole by hand. Such financial dynamics exacerbate the difficulty of operating redemption services by hand, which is how materials are processed by the only waste picker groups around the world that are active in formal DRS operation. Automating redemption work eliminates some of the only accessible formal jobs for waste pickers under DRS.

In some cases, volunteer arrangements have enabled depots to operate without handling fees. In Montreal, where only retailers were eligible for a handling fee, waste picker organisation Coop Les Valoristes operated a manual depot for 10 years by relying on grants and donations. It was not until 2024 that they were able to negotiate inclusion in the handling fee system, though the payment does not adequately cover the costs of rent, leading to ongoing uncertainty about their future location and viability. Furthermore, grocery stores get the same per container handling fee (2.5 cents CAD) for receiving a fraction of the amount of containers received by Coop Les Valoristes, which processes more than 7 million containers a year and thus requires considerably more space than many retailers. Overall, the system is increasingly vertically integrated under the system operator, Consignacion, reducing opportunities for depot operators and recyclers under the system (Léveillé, 2026).

Even for those entities operating redemption services under a handling fee, it can be difficult to cover costs. Waste picker organisation Sure We Can receives a 3.5 cent per container handling fee under New York's DRS (Returnable Container Act, known as "Bottle Bill"). New York's handling fee has not risen since 2009, and because any increase must be legislated, a politically-fraught process, Sure We Can faces challenges of sustaining operations in an environment in which depots around the state are shutting down due to

economic infeasibility. In New York City, they have been advocating unsuccessfully for a number of years for an increase in not just the handling fee, but also the 5-cent deposit.

In Oregon, United States, waste picker organisation Ground Score Association operates their People's Depot thanks to donation funding from the OBRC (distributors) and, initially, the City of Portland. This funding only sustains them to operate for 2.5 hours a day, Monday through Friday, in part because the payment is not per container but a flat rate. In recent years, however, OBRC has given Ground Score a premium for every 1 million containers collected above 7 million each year.

In Ecuador, waste pickers are highly organised and have fought in defence of the national DRS, despite their lack of integration into the formal system implementation, and despite barriers to redeeming deposits that include the requirement to show identification (Eunomia & University of Western Cape, 2024). Even though the system was intended to reward those collecting PET bottles through the system, none of the recognised entities eligible for refund under the system are waste picker organisations; the system remains operated predominately by large recycling companies and intermediaries (Viteri, 2022; Valencia & Saltalippi, 2026).

Even in Uruguay, where the national waste pickers union (Unión de Clasificadores de Residuos Urbanos Sólidos (UCRUS)) opposed the Plan Vale, an update to the national EPR for packaging law, they did not oppose DRS, and had actually proposed something similar prior to the introduction of DRS policy. But their support for DRS rests on the demand that it be operated by waste pickers rather than the companies that generate waste. Their primary complaint is that the DRS diverts the most valuable material away from their plants (UCRUS, personal communication, 2025).

In Goa, India, the proposed digital DRS system on beverage containers and multilayer packaging will most likely require those returning materials to have their own digital account. The system will be implemented by the private entity Recykal, which is establishing automated return vending machines to receive materials. In a June 2024 letter sent to Goa's Secretary of Environment and Climate Change, the Alliance of Indian Waste Pickers expressed a range of concerns about the proposed system, including the risk of monopoly control of plastic waste management services by a centralised system operator (Alliance of Indian Waste Pickers, personal communication, 2024).

Thanks to handling fees, there exists a range of socially-minded depots that do not necessarily hire waste pickers but are important for easy-entry employment: Ever Green depots in Newfoundland and Labrador grew out of a mental health program, United We Can in British Columbia was started by famed waste picker Ken Lyotier and hires some - but not all - people with waste picking backgrounds; Everyone Village's container return program in Eugene, Oregon operates as an OBRC-funded workforce development program for residents of their safe rest village on the same property. The program is supported by grant funding from OBRC. In Saskatchewan, Canada, beverage containers bear a 10-cent deposit, with a 6-7 cent environmental (handling) fee paid by the consumer and used to fund 78 depots run by the [SARCAN](#) social enterprise. Western Australia state is home to one of Australia's most successful DRS, called Containers for Change, which was launched in 2020. The scheme emphasises social benefits, having created more than 820 jobs as of 2022, 32 per cent of which are filled by people with disabilities, Aboriginal people or people experiencing long-term unemployment (Government of Western Australia, 2022).

Under many DRS, waste picker organisations, like other private entities operating depots, face considerable challenges in affording property, complying with zoning, insurance, and regulatory requirements, while also struggling to exist. Depot operation also demands careful negotiation with everyone from customers and neighbours, to politicians, and powerful producer, distributor and retailer associations. In British Columbia, depots have worked together to amplify their power in negotiating with distributors over the handling fee. Even when funding is in place, the siting of depots can be especially difficult in cities with high rates of visible homelessness and open drug use, where local communities may organise against having depots in their area.

When handling fees, premiums, and other payments fail to generate stable income to operate full-time depots, wages or total work hours necessarily suffer. Furthermore, without waste pickers involved in the operation of depots, the sites can be too heavily oriented towards consumers and thus create barriers for waste pickers, including by limiting the number of containers that can be returned at a given time, or only offering trade for goods rather than cash for containers (Johansson, 2024).

Government versus distributor/producer-operated

The International Alliance of Waste Pickers (IAWP) advocates for EPR in which both government and producers are involved in systems implementation, and, in this case, having both involved is important. When comparing the IAWP affiliates who operate depots, it is not clear what arrangement is more beneficial to waste pickers under DRS. Oregon is a privatised, distributor-operated system without a handling fee, which posed some initial challenges to entry for organised waste pickers, who ultimately opened their People's Depot in 2020. The model was initially funded by the City of Portland as a COVID-response measure, but the People's Depot has been able to build a meaningful partnership with the distributors' organisation over the years as their success gains recognition. This might not have been possible without initial investment and ongoing political support from the local and state governments. But distributors have grown their investment over the years, and have also worked with them on legislative changes that may ultimately bring in additional funding from retailers.

In New York, redemption agents like depots and retailers arrange collection and handling, while distributors implement collection and pay out handling fees. Used beverage containers must be sorted by brand distributor, which adds complexity to the handling. New York has a legislated handling fee that any registered depot is eligible for. However, the primary negotiating counterpart for Sure We Can is the New York State government, through the politically challenging legislative process.

In Quebec, the system is implemented by producers (Quebec Beverage Container Recovery Association (QBCRA)), and initially, only retailers were eligible for a handling fee, though in 2025, Coop Les Valoristes was, after ten years of advocacy, able to negotiate inclusion into the handling fee system.

In Quebec and Oregon, the negotiating counterpart has primarily been producers/distributors associations, though cultivating support from local and state/provincial governments has been essential for waste pickers to build leverage. In both Quebec and Oregon, 100% of unredeemed deposits go to the producers, while in New York state, 80% of unredeemed deposits go to the state general fund, though not to support the administration of the system, while 20% goes to distributors. In New York, neither of these portions is generally spent on supporting depots in the system. In fact, a depot-supporting program was created in the bottle bill's 2009 expansion, but has never had money allocated to it and has not disbursed funds to depots.

Despite the diversity of scenarios for system operations in the three places where waste pickers are organised to operate depots, waste picker groups face considerable challenges in sustaining decent work and a secure future in the operation of depots. The waste picker organisations in Oregon, New York and Quebec agree that no one system could be identified as the best or most preferable for organised waste pickers at this stage. Rather, some combination of characteristics found in their DRS systems would actually create a more ideal system for inclusion and waste picker integration.

3. Conclusion

The question of whether DRS for recyclables is desirable for waste pickers rests largely on whether or not waste pickers can access and earn a satisfactory income from materials without DRS. If not, they may prefer DRS or any other mechanism that pays for the service of material collection and processing, as long as it does not result in too much competition for materials- a reality that is heavily based on local circumstances and markets. Furthermore, the desirability of DRS for organised waste pickers rests on the opportunity to advance into the implementation of redemption centres, transportation, or processing.

Whether waste pickers would support DRS for reusables, however, is a separate question altogether. Waste pickers would surely prefer a system in which reusables have a premium on them, whether a deposit or not, that adequately incentivises their collection without creating high consumer competition for the return of such materials.

Companies tend to envision a DRS for reusables because reusables are generally more costly than disposables, and thus may need an added monetary incentive for their return. Regardless of whether the nature of the payment is a deposit or a simple premium paid by producers, the challenges and opportunities of waste pickers working under DRS can offer insights into how reusable packaging systems need to be designed in order to accommodate and integrate waste pickers. Looking at models in North America, DRS need to offer better payment for services such as the operation of depots, as well as a high enough deposit and convenience to maximise collection.

As DRS expand around the world, it is important for waste pickers to have a clear position on these systems. Often, waste pickers lack the power to veto a new policy, but can at least aim to influence it. The following recommendations have been developed by the North America affiliates of the International Alliance of Waste Pickers over the past six years, through regular regional meetings and workshops, as well as through regular consultations in response to policy proposals and contract negotiations in Montreal, New York and Oregon. The recommendations have been cross-validated by demands from waste pickers in other regions under or facing DRS, including Ecuador, Uruguay, and the Philippines. Because there is no global consensus amongst waste pickers on whether materials should carry a deposit versus a premium that is sufficient to incentivise collection, these recommendations use deposit and premium interchangeably - what is important is that the payment for collection is sufficient.



Coop Les Valoristes
Photo by Coop Les Valoristes

4. Policy recommendations

Waste picker organizations confronting or working under DRS in places like the United States of America, Canada, India, Ecuador, Uruguay, and the Philippines have communicated a range of similar recommendations when it comes to inclusive DRS design. The recommendations can be clustered in different topics covering what's necessary to ensure waste pickers can be part of a DRS, both formally and informally. These recommendations can support waste pickers and their organisations in advocating for inclusive DRS, and serve as an inspiration for policymakers and producers/distributors around the world.

It is important for DRS to better ensure decent livelihoods and occupational conditions for waste pickers working in the informal economy. For these positive impacts to happen, the following should be taken into account:

- Target low and no-value materials first, to avoid disrupting value chains for materials that are already being collected.
- Recognise and legalise informal collection at curbside and in public spaces/bins, and do not lock public or private containers.
- Include a deposit or producer-subsidised premium on more materials, especially low and no-value materials, to ensure that they are collected from the environment and from communities with inadequate waste collection services, and to incentivize recycling or reuse options.
- Deposits and premiums on beverage containers in the United States and Canada should be a minimum of 10-cents/unit, though 25 cents and higher is preferable. The deposit/premium should be increased if return rates drop below a certain percentage.
- Potentially hazardous and heavy (like 500ml glass bottles) materials should hold a higher deposit/premium.
- Deposits should not be linked to specific people or digital accounts - meaning anyone should be able to return materials to receive the return deposit or premium.
- Waste pickers should be mentioned and defined in policy.

Furthermore, DRS should leverage their potential to create entries into more formal work for waste pickers. To ensure adequate pathways to formal work:

- The system should include voluntary options for registration of waste pickers that provide access to social benefits.
- Government and producers should work together to ensure free and affordable access to land and permitting for a decentralised network of depots.
- The system should include a per-unit handling fee/premium for system operators. Minimum handling fee recommendation: 70% the price of the deposit.
- Depot operators should not be required to provide material transportation, which can create significant up-front barriers, including in securing insurance for the transportation of materials.
- Depot operations should not be fully automated and should generate decent, formal livelihoods for waste pickers.
- Priority system: Licenses and access to handling fee should prioritise depots that are social enterprises, cooperatives, and non-profits, with a mission to provide formal livelihoods for low-income, unemployed, or otherwise vulnerable workers such as waste pickers. However, it should not exclude others from opening depots because it is essential to allow for maximal access to, and diversity within, the system.

Finally, it is also important to ensure system integrity and improvement both in the short and the long term:

- A state-appointed advisory committee should be established to provide updates, analyse the equity of the system, and review program audits. Waste pickers must be included as referenced stakeholders in these bodies.
- Periodic, state-mandated system audits should be conducted to assess the full income and expenditure of the system, material impacts, and distribution of opportunities in the system.
- Transparency around the flow of money, materials and opportunity in the system should be mandatory.
- Producers and retailers should be the responsible parties for paying handling fees.
- Unredeemed deposits should be reinvested into the system, ideally oriented towards equity-focused investment, including to subsidise depots and related expenses.
- Better data is needed on who is implementing the system, meaning that data should be collected on whether those returning materials are consumers versus waste pickers, as well as which entities are operating different aspects of the system.

While DRS can be problematic for waste pickers in places where informal recovery of covered materials is already robust, it can be of benefit to them in places where access to materials and their commercialisation has become privatised, or where the price for selling the material is too low to merit the labour and cost of collection. It will also be beneficial to consider how reuse might be incorporated back into economies in ways that generate economic opportunity for the working poor, specifically waste pickers. This can be appealing to industry, which benefits from the free labour of waste pickers in collection and sorting, but this should not be a driver. Ultimately, materials must carry enough value to incentivise their collection, whether that value exists as a deposit or a premium.



Marlene and Jeanne are regulars at Ground Score's People's Depot.
Photo by Milo Mattern

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About the author

Taylor Cass Talbott is the Program Manager for IAWP and the Executive Director of Ground Score Association, in the United States. She has long worked at the crossroads of materials management, job creation, and social inclusion, as a project manager, organizer, dumpster diver, scrounger, and upcycler.

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About the International Alliance of Waste Pickers (IAWP)

The IAWP is a democratic international union of member-based organisations of waste pickers spread across Africa, Asia Pacific, Europe, Latin America & Caribbean and North America, committed to advancing the rights and strengthening the organising of waste pickers.

Learn more: <https://wastepickersinternational.com/>



About North America Waste Pickers Alliance (NAWPA)

NAWPA is a network of waste picker organisations based in the United States and Canada that works to provide a united voice for those who earn income by reclaiming what others have discarded.

Learn more: <https://www.nawpa.org/>



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The People's Depot.
Photo: Taylor Cass Talbott



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