Department of Environment and Heritage Protection

Implementing Queensland's Container Refund Scheme

Discussion paper

Queensland Government

Message from the Minister

On 22 July 2016 I announced that the Queensland Government will introduce a statewide Container Refund Scheme on 1 July 2018 to reduce the impact of drink container litter on our natural environment.

Under the Scheme, a 10 cent refund will be provided for empty drink containers that are returned to an approved refund point, providing an incentive for everyone to 'do the right thing.'

I know many Queensland households are proud of their recycling efforts at home and this Scheme provides an opportunity to build on that good work as well as providing additional opportunities for people to recycle away-from-home.

In addition to reducing the amount of unsightly littered containers from our streets, parks and waterways, the Scheme will provide much broader benefits for our environment, our economy and our community.

With almost three billion bottles and cans used in Queensland every year, we have an opportunity to reduce the amount of waste going to landfill and significantly improve recycling rates.

Through improving resource recovery, especially in regional areas, the Scheme also has the potential to create jobs and contribute to economic growth.

In addition, it provides fundraising opportunities for community-based organisations, helping them to deliver much needed programs and services to their local communities.

The Container Refund Scheme is an opportunity for government, industry and the community to work together to make a real difference to improving the health and sustainability of our environment.

I encourage you to read this discussion paper and have your say on the best way to implement the Scheme to ensure it delivers the best possible outcomes for Queensland.

Dr Steven Miles MP
Minister for Environment and Heritage Protection
Minister for National Parks and the Great Barrier Reef

Table of contents

Introduction

On 1 July 2018, Queensland's state-wide Container Refund Scheme (the Scheme) will commence, allowing people to take empty drink containers to a collection point for a refund.

Container schemes operate in around 40 countries. Some operate nationally (as is the case in Germany and Norway) while others operate on a state or province basis (as in the United States of America, Canada and Australia).

Many schemes have been operating for a number of years—in some cases, such as British Columbia and South Australia, since the 1970s—and several evolved from, or are still operating in parallel with, refillable bottle return schemes.

The broad aims of the Queensland Scheme are to:

» reduce the amount of drink container litter in, and that enters, the environment

» increase the overall recycling rate for drink containers.

Drink containers make up a significant proportion of the litter stream and are manufactured from materials such as aluminium, plastic and glass that are readily able to be recycled.

The Scheme will be supported by a legislative framework comprised of requirements in an Act and Regulation.

It is intended to operate alongside kerbside recycling and complement these existing services as much as possible. It will provide an opportunity for many communities without kerbside recycling services to participate in recycling activities and also allows drink containers that are consumed away from home to be collected and recycled.

The Scheme forms a key component of the Queensland Government's broader integrated approach to reducing the amount of plastic pollution in the environment.

This discussion paper provides information about the confirmed elements of the Scheme and seeks feedback about other aspects of the Scheme's structure and operations.

Submissions can be made until Monday 20 March 2017.

For information on how to make a submission visit www.ehp.qld.gov.au/waste/

Container Refund Scheme—at a glance

1

Queensland's Container Refund Scheme will **begin on 1 July 2018.**

2

It will **help reduce drink container litter**, increase drink container recycling and create new employment and business opportunities.

3

A **refund of 10 cents will be available** on all eligible drink containers between 150ml and 3l in size which are returned to a container refund point.

4

Some drink containers will be exempt, such as containers for plain milk and wine, and larger pure juice containers.

5

Containers can be **returned** to **dedicated container refund points** for a refund payment.

6

Containers **can also be returned to container return points for recycling** but the refund will be given to the operator of these return points. Container return points may be run by community organisations such as schools, sporting clubs, charities etc.

7

Eligible containers will need to have an **approved refund marking** before being sold or distributed for sale in Queensland.

8

Beverage suppliers will be **responsible for covering the costs of the Scheme** including the refund payment, handling, processing and transport fees.

9

Retailers will have certain obligations in relation to eligible containers they sell but will not be required to accept delivery of empty containers or pay the refund amount.

10

Built-in safeguards, such as auditing, reporting and accountability, will provide transparency and help prevent fraud.

Have your say

General Scheme Elements

Refund Payments

1. Please provide your views on the various refund options (i.e. cash, voucher, direct bank credit, etc.) that may be available to a person returning containers to a container refund point.

Refund Marking

2. Do you think a logo or picture to represent the refund marking is easier to understand than the text, similar to that used in South Australia and Northern Territory?
3. Do you agree with broadening the eligibility to receive a refund to 'participating jurisdictions' rather than only in the 'state of purchase'?
4. Do you support providing flexibility in the Scheme to allow for the use of more than one way to identify an eligible container (i.e. barcode technology, container shape, manual identification)?

Accessibility and Infrastructure

5. What is the best way to provide fair and reasonable access to a container refund point?
6. What options might be available to the retail sector to participate in the Scheme?
7. How far would you be willing to travel and where would be a convenient location (i.e. public places and buildings, supermarkets, transfer stations, material recovery facilities) to redeem your containers?
8. How can convenience for redemption of containers and equitable access to all in the community be enhanced (i.e. co-locating container refund points with other collections such as e-waste, establishing new infrastructure)?
9. Do you think that the provision of a specific number of refund points to a certain area should be legislated?

Submissions can be made until Monday 20 March 2017

For information on how to make a submission visit www.ehp.qld.gov.au/waste/

Scheme Administration

10. Do you think it is appropriate for the Queensland Government to be responsible for setting the handling fee and deciding how this is allocated among Scheme participants?
11. Do you think the Queensland Scheme should have a single Scheme coordinator or multiple Scheme coordinators?

Implementation and Review

12. What do you think might be a reasonable period for the Scheme, from time of introduction, to achieve a targeted level of access?
13. How long do you think the Scheme should operate before being reviewed?

The benefits of a Container Refund Scheme for Queensland

The contents of around three billion containers are consumed in Queensland each year.

Empty drink containers consumed at home and away-from-home may end up:

- in a recycling bin
- in a waste or litter bin
- as litter in the environment.

Drink containers are a highly visible part of the waste stream. Plastic beverage containers also break down into small fragments over time, contributing to the plastic load in waterways and the environment.

The Queensland Container Refund Scheme (the Scheme) will:

- **reduce drink container litter** by providing an incentive for people to keep, collect and return the containers for a refund
- **reduce the environmental impact of litter** on the natural environment and on wildlife
- **reduce the costs associated with litter** removal for local governments, land managers and communities
- **increase recycling** and **recovery rates**
- **provide an opportunity for communities** without kerbside recycling services to **participate in recycling activities**
- **increase business** and **employment opportunities**.

How will the Scheme improve recycling?

Queensland's recycling rate sits at around 44 per cent. Based on information from other states, recycling of containers consumed away-from-home represents around 20–30 per cent of consumption.

The Scheme will help significantly improve recycling rates at home and away-from-home.

At home

The Scheme will provide:

- an additional method for collecting and recovering drink containers, many of which are made from highly recyclable material
- access to recycling services for those Queensland communities without access to kerbside recycling services.

Away-from-home

The Scheme will provide:

- an incentive for people to recover and recycle empty drink containers at away-from-home locations (such as cafes, food courts and restaurants, pubs, clubs and hotels, event sites and open air settings).

Figure 1. The potential pathways for containers generated at away-from-home locations such as hotels and clubs

How will the Scheme reduce litter?

Drink containers make up a significant proportion of litter in Queensland, representing around 44 per cent of the total volume.[1]

Drink container litter is largely associated with drinks consumed in open air settings such as parks, beaches, malls and car parks. Significant amounts of drink container litter can also be found along highways and in high foot traffic areas where users may not have easy access to litter bin infrastructure.

Litter has serious impacts on the environment, visual amenity and public health and it diverts resources to clean ups rather than the provision of other essential services.

While many local governments have already established sound networks of public place litter and recycling bins, a significant amount of litter still makes its way into the environment.

The Scheme will help reduce the amount of litter by providing an incentive for people to keep, collect and return their containers for a refund payment.

1 Based on 2014–15 Keep Australia Beautiful National Litter Index results

How the Scheme will work

Agreed arrangements

Some elements of Queensland's Scheme have already been decided.

The Scheme will provide consistency with existing schemes in South Australia and the Northern Territory and the emerging scheme in New South Wales. It will also help reduce consumer confusion and costs for the beverage industry and Scheme as a whole.

Detailed arrangements for the implementation of the Scheme are being developed with key stakeholders and will be informed through feedback received from this discussion paper.

An Implementation Advisory Group is assisting the Queensland Government with developing suitable accessibility and recovery targets for the Scheme.

1 Refund payment

A 10 cent refund payment will be provided for all empty, eligible containers taken to an approved Container Refund Point.

How can the refund be made?

The refund could be provided in a number of ways including:

- cash
- credit/debit card or bank/PayPal account credit
- redemption coupon through retail stores
- loyalty reward program
- other credit arrangements (e.g. transport or power card top-up)
- prize draw.

In the longer term, Container Refund Point operators may choose to set up other types of account management arrangements to suit the needs of their regular clients.

The legislation will provide flexibility for the Container Refund Point operator to choose how they want to make the refund payment. For example, it may not be possible for all operators to deal in cash, or their ability to do so may be limited. Refunds for commercial volumes of containers may need to be made via bank credit rather than cash. This would reduce the amount of cash held at premises at any given time, along with the security risk to both the site operator and the person receiving the refund amount.

The determination for making cash payments could be by a threshold set in regulation, either monetary value or number of containers, or left to the discretion of a Container Refund Point operator.

2 Eligible containers

Most aluminium, glass, PET, HDPE, steel and liquid paperboard drink containers between 150ml and 3l (inclusive) will be eligible containers under the Scheme.

The Queensland Scheme will align with the eligible containers that are covered by the emerging New South Wales scheme.

Containers less than 150ml will not be eligible for a refund and suppliers of beverages in these containers will not have obligations under the Scheme.

The reasons for this are:

- Beverages sold in very small containers are relatively inexpensive comparative to the potential included costs of collecting the containers under the Scheme. This could have a disproportionate effect on the retail price of the product.
- Drink containers under 150ml rarely turn up in the litter stream as they are predominantly consumed at home.

3 Excluded containers

There are a number of different types of drink containers that will not be eligible for a refund under the Scheme.

The excluded containers are:

- plain milk containers
- glass containers which have contained wine or pure spirits
- large containers (one litre or more) which have contained flavoured milk, pure juice, cask wine or cask water
- cordial and vegetable juice containers
- sachets above 250ml that have contained wine
- registered health tonics.

These exclusions ensure alignment with the emerging New South Wales scheme and will help avoid consumer and beverage industry confusion across the Queensland and New South Wales schemes.

Future reviews may revisit current exclusions and explore the possibility of aligning the various state-based Australian schemes.

4 Refund marking

All eligible containers will be required to carry a marking that identifies them as eligible for a refund.

It is important that this refund marking is legible and obvious to the consumer, retailer and container collection point operator.

The type and design of the refund marking is being developed and the Queensland Government is working closely with the New South Wales Government and other jurisdictions on this issue.

Options for refund marking

Traditionally the refund marking is printed on the product label. However, missing or illegible labels may result in otherwise eligible containers being rejected. It may be preferable for the refund marking to be a physical mark or identifier on the container itself, rather than printed on the label.

The refund marking may be in the form of a:

- logo or image on the container or printed on the label or
- words printed on the label, similar to the South Australian and Northern Territory requirements, “10c refund at SA/NT collection depots in State/territory of purchase”.

5 Legislative framework

Regulatory framework

The Scheme will be supported by amendments to the *Waste Reduction and Recycling Act 2011* and the Waste Reduction and Recycling Regulation 2011.

The legislative framework will outline:

- objectives and operational elements of the Scheme
- eligible containers
- amount of the refund payment
- refund marking
- obligation for suppliers of eligible beverages to participate in the Scheme
- the obligations for Scheme participants
- reporting and performance requirements
- approval criteria for container refund point operators
- offences and penalties.

Non-regulatory framework

A number of formal arrangements will also form part of the Scheme structure:

- Container recovery arrangements—an agreement between the beverage supplier and the Scheme Coordinator for the collection, sorting and aggregation of containers. Under this agreement the beverage supplier declares its Queensland sales and pays the refund and handling fee.
- Contracts—between various parties, for example a local government and a Material Recovery Facility (MRF) operator which details obligations, material ownership and any revenue-sharing arrangements.
- Guidelines—will be developed to explain the Scheme's operating principles, including a methodology for estimating numbers of eligible containers collected through the MRF.

Queensland's Scheme—elements to be decided

The Queensland Government is committed to implementing a Scheme which will deliver the best possible outcomes for Queensland.

1 Scheme governance and operations

The government is committed to developing a Scheme that is consistent with the emerging New South Wales scheme where appropriate, to reduce confusion and duplication for industry and consumers. However, it is important that Queensland's Scheme has the most appropriate governance, structure, and operating arrangements for our circumstances.

1.1 Scheme governance and structure

Governance arrangements and scheme structures differ across jurisdictions, both in Australia and overseas.

Schemes can be administered by government or by industry although in both cases scheme costs are largely borne by the beverage industry.

Government-administered schemes

- Schemes administered by the government, such as the one operated in California, generally involve public sector control of the flow of funds and information, as well as scheme regulation.
- Physical flows of containers can be delegated to private sector operators or managed by government entities.
- The advantage of this arrangement is that it provides government with direct control over the delivery of its public policy objectives for the scheme and the ability to identify and restrain fraudulent practices.

Californian operating model

The California Department of Conservation is responsible for the administration of a deposit-return system in California under the *Beverage Container Recycling and Litter Reduction Act*.

Under this system the Department oversees the recycling of beverage containers composed of glass, plastic, aluminium and bimetal.

Beverage distributors pay a per container fee (CRV) of 5 cents ‹24 oz and 10 cents ›24 oz into a state fund, the California Beverage Container Recycling Fund.

Consumers pay a deposit of 5 cents for each container ‹24 ounces and 10 cents for each container ›24 ounces.

They receive a refund of 5 cents for each container of less than 24 ounces redeemed, and 10 cents for each container of 24 ounces or greater redeemed.

Handling fees are paid to the operators of supermarket redemption sites only, to help cover the costs of operating a redemption system at those locations. The Department calculates the monthly handling fee at the rate of $0.01046 per beverage container redeemed.

Processing payments are paid to all redemption centers and to curbside programs to help cover the costs of recycling materials with a low scrap value.

Part of the processing payments are supplied by distributors' processing fees, but the majority of processing payments come from unredeemed deposits.

Unredeemed deposits remain the property of the program and are used for program administration and program payments and grants.

Industry-based schemes

- Industry-based schemes operate in South Australia and the Northern Territory.
- The beverage industry is required by legislation to organise and run the scheme and operate under broad government regulation to ensure that a system is in place for the recovery and recycling of their empty beverage containers. The role of government is to provide the legislative framework for the scheme and to enforce the provisions.
- The advantage of this arrangement is that it can be more cost-effective because the beverage industry has logistics expertise and a clear business incentive to minimise operating costs so providing for a more cost-efficient scheme.

1.2 Scheme Coordinator

Queensland's Container Refund Scheme will have some form of coordinator role. The Coordinator will be responsible for:

- delivering the most appropriate and best-fit scheme for Queensland, including providing value-for-money
- overall operation of the Scheme, including operating system cost determination and control of the flow of funds and information.

Queensland-only Scheme Coordinator

- The Scheme Coordinator role is established in legislation along with the coordinator's roles and responsibilities.
- Roles and responsibilities could include reporting to government against scheme performance measures, financial accountability, ensuring transparency in the scheme to prevent fraud and entering into a container recovery arrangement with beverage suppliers.
- This option would allow for more than one Scheme Coordinator, similar to the South Australian and Northern Territory schemes.
- An approval process and assessment criteria would be provided in the legislation. A person would not be able to operate as a Scheme Coordinator without an approval.

A shared Scheme Coordinator for both Queensland and New South Wales

- This would potentially provide efficiencies to both schemes as it could avoid administrative duplication, for example around establishment of approved container databases and arrangements with beverage suppliers.
- Under this arrangement the Queensland Government would potentially enter into an arrangement with the New South Wales Scheme Coordinator to provide scheme services in Queensland.
- However, it may be difficult for one Scheme Coordinator to administer two separate schemes, particularly as there are significant regional differences between the states that will impact on the cost structure of the schemes—for example transport costs and accessibility issues.

New South Wales scheme approach

The Scheme Coordinator responsibilities will include:

- overall operation of the scheme, including operating system cost determination, and will have direct control of the flow of funds and information.
- entering into arrangements with beverage suppliers (supply arrangement) and Network Operators (network arrangements).
- managing funds flow by billing beverage suppliers for scheme costs including container refunds, handling costs and administration costs.
- monitoring and reporting on network operations and performance in accordance with set objectives and requirements set by the government.

Network Operator responsibilities will include:

- paying the refund amounts and associated handling costs for containers that are collected at collection points and for which a refund is payable.
- entering into arrangements with collection point operators (collection point arrangements).
- the physical flow of containers from the point of presentation for refund by the consumer to delivery of containers to a specialised facility for reprocessing.

Structure and governance arrangements will include:

- government appointment of the Scheme Coordinator and Network Operators for a fixed term following a competitive tender process.
- separate agreements will be established between the Environment Minister and the Scheme Coordinator and the Environment Minister and a number of Network Operators.
- government monitoring and control Scheme Coordinator and Network Operator performance. It will retain control of both, the competitive environment and scheme policy settings, including the scope of containers and the refund amount.

Case Study—Canada

The world's oldest extended producer responsibility program, the British Columbia scheme in Canada has been operating since 1970. The law applies a deposit of five, 10 and 20 cents on most packaged beverages sold in British Columbia. It is one of the best-performing recycling programs in the world because of its comprehensive coverage of beverage and container types, convenient return-to-retail and depot consumer return options, its high collection rate and its high use of refillable containers.

Handling fees are not regulated by government. Two private stewardship agencies carry responsibility for the program. Encorp Pacific (Canada) oversees the container recovery system for all non-alcoholic beverages, and covers the costs by charging consumers a non-refundable container recycling fee (CRF). Brewers Distributor Ltd. (BDL) is responsible for all beverage alcohol sold in cans, as well as beer and cider in refillable glass bottles BDL embeds its costs in the shelf price of its beverages.

A covenant arrangement between the Scheme Coordinator and the government establishes an access performance indicator stating that 95 per cent of the population must be within 30, 45 or 60 minutes' drive time to a depot.

In 2010, more than 1.5 billion containers were recycled and diverted from landfills in British Columbia. Redemption rates were 80 per cent for Encorp and Brewers Distributors Ltd 94 per cent.

Case Study—Norway

Under the Norwegian scheme most supermarkets host reverse vending machines (RVM) which take the bottles and cans in exchange for a receipt, which people then cash in at the supermarket register. The RVMs also take bottles and cans that are outside the scheme for recycling, but no credit is provided on these.

The Norwegian system is operated by Norsk Resirk AS, which was established in 1999. The company is a consortium between beverage manufacturers and the Norwegian grocery industry and was granted the exclusive right to manage the deposit/refund system for empty non-refillable containers after the system was approved by the Norwegian Pollution Control Authority.

There is no mandatory requirement for beverage producers and importers to sign up with Norsk Resirk AS if they want to market products in non-refillable beverage containers in Norway. However all beverage cans or bottles, have an environmental fee. This fee is reduced when the amount of bottles and cans deposited increases. If a product reaches a 95 per cent return, the fee is removed. However, if a manufacturer does not sign up, they are not entitled to a reduction in the environmental fee.

Norsk Resirk AS is financed through:

- sign-up fees
- per-container fees
- collection/logistics fees.

Norsk Resirk AS pays all shops and supermarkets a fee to cover the costs of handling both empty refillable and non-refillable beverage containers.

In 2006, the return and recycling rates of used beverage containers reached the following levels in Norway:

- Metal cans: 92 per cent
- PET bottles: 82 per cent

2 Accessibility and infrastructure

Queensland's Scheme seeks to ensure that Queenslanders have reasonable access to container collection points and to ensure the Scheme's operations are matched to local conditions.

Queensland's Scheme will be cost-effective and provide for efficient and convenient container collection through a network of permanent, temporary and mobile collections and integrating Reverse Vending Machines and automated counting and sorting technology where appropriate.

2.1 Access and convenience

There are a number of issues to be considered in establishing and providing reasonable access to the Scheme's container collection points.

Number and location of collection points

- To ensure convenient access across Queensland, a large number of container collection points—both container refund points and container return points—will be required.
- Reasonable access in a highly urban environment or large metropolitan location will differ from reasonable access in a rural or remote community.
- The number of collection points that will be required to adequately service the needs of the Scheme is still to be determined.
- A large number of container collection points could add to the Scheme's operating costs.
- For a Scheme to remain viable, it is important to provide an optimal number of container collection points in a particular area.
- It is likely that minimum requirements will be set for the number and location of collection points.

Accessibility performance measures

- Accessibility performance measures will be developed for the Scheme and may be refined over time.
- The targets are designed to ensure Queenslanders have reasonable access to container collection points. For example, an accessibility performance measure may be the percentage of Queenslanders who live within a certain distance of a container collection point.
- The Implementation Advisory Group will work with the government to develop these targets.

Collection infrastructure

- Existing waste management facilities and public infrastructure may be able to be used as container collection points where feasible.
- However, in some areas of Queensland there is a relative lack of potentially suitable turn-key waste infrastructure. It may take time to build up the number of container collection points necessary to meet reasonable access expectations.
- An assessment of suitable available infrastructure will be required prior to commencement of the Scheme.
- The infrastructure in place for current waste management activities will be a key factor in creating operating and cost efficiencies for the Scheme.
- Some existing infrastructure will not be suitable for a container collection point. This will necessitate the identification and establishment of a new location.
- Establishing container collection point infrastructure provides opportunities to create local area jobs and support social enterprise and community activities.

Regional framework

Should Queensland be divided into regions to ensure the Scheme provides adequate coverage for communities across the state?

How might the state be divided?

- Three regions: metropolitan, regional and remote regions.
- Horizontal regions: based along transport corridors from major population centres such as Cairns, Townsville and Rockhampton.
- By local government groups: Central Queensland, North Queensland, Wide Bay etc.

For example, NSW has been divided into seven regions, with the metro area divided into three sub-regions for the purposes of appointing Network Operators. These zones generally align with the established NSW waste regions to take advantage of existing waste infrastructure in these areas.

2.2 Container return arrangements

Queensland's Scheme will be made up of a combination of container collection points that include Container Refund Points and Container Return Points.

This mix of container return arrangements will provide for increased access and community involvement, contributing to the Scheme's success.

Container return arrangements

- container refund point (refund provided)
- container return point (container return only)

Container refund point

- Container refund points provide a location where consumers can return their empty drink containers and receive a refund payment.
- Container refund points may be:
  - permanently located at a dedicated site
  - co-located at a facility such as a transfer station
  - mobile collection facilities
  - a Reverse Vending Machine (RVM) at a supermarket, shopping centre or other location.
- The design and location of container refund points is likely to vary depending on location and the needs of the local community. For example, the South Australian scheme relies very heavily on a traditional hub and spoke arrangement of permanent depots while many European schemes utilise RVM technology and return-to-retail points.
- Container refund point operators will have specific requirements placed on them through an approval process established in legislation. These requirements may include defined opening hours and obligations to accept eligible containers.
- All container refund points will need to provide an accurate container count (manual or automated) in order to provide the correct refund and to receive accurate payment for the containers they have refunded.
- Container refund points will require an approval to operate.

Container return points

- Container return points provide a location where consumers can return their empty drink containers—but they won't receive a refund payment.
- Consumers returning containers to container return points will effectively 'donate' the 10 cent refund to the container return point operator.
- The container return point operator would claim the refund when the containers are taken to a container refund point.
- Container return points may be operated by community groups e.g. schools, sporting clubs, and charities or as part of events or fundraising activities.
- Container return point operators may be more informal in operation than a container refund point and may operate on an irregular or pop up basis.
- Container return points will still be required to meet minimum standards and requirements.

Issues to be considered—commercial container refund points

The inclusion of commercial container refund points in this Scheme is under consideration. These may be established by an operator solely for the purpose of receiving bulk 'commercial' volumes of drink containers rather than being open to individual members of the public. This type of operation may increase redemptions from commercial premises where a transporter collects from multiple premises on a regular basis.

This could allow container refund points that are open to the public to reduce some of the potential administration and streamline the processing of small volumes of material. 'Commercial' container refund points could potentially be used as single-material collection points such as glass or aluminium.

Return-to-retail container refund point

The involvement of the retail sector is essential to ensuring the Scheme provides the highest level of convenience and accessibility for customers.

- The Queensland Government will work with retailers to understand how they may be involved in the Scheme and on the voluntary implementation of container refund and return points.
- A retailer may choose to locate a RVM or provide a container collection point where consumers can return their empty containers.
- In most European schemes, return-to-retail is mandated with the person returning the containers to the store given a store credit in place of cash. This can then be redeemed in the store. This may in turn provide benefits to the retailer in the form of increased foot traffic through the store.

3 Interaction with existing recovery services

3.1 How will the Scheme work with existing kerbside recycling collections?

Where possible, the Scheme will be designed and implemented to complement existing recovery services.

Queenslanders will still be able to use their existing kerbside recycling, where available, to recycle eligible containers. However, no refund will be payable to the consumer on containers that are collected through kerbside recycling.

Experience from other jurisdictions shows that many households continue to use their kerbside recycling bin rather than taking containers to a container collection point.

Containers and other materials placed in kerbside recycling bins are transported to a materials recovery facility (MRF) through the normal kerbside collections.

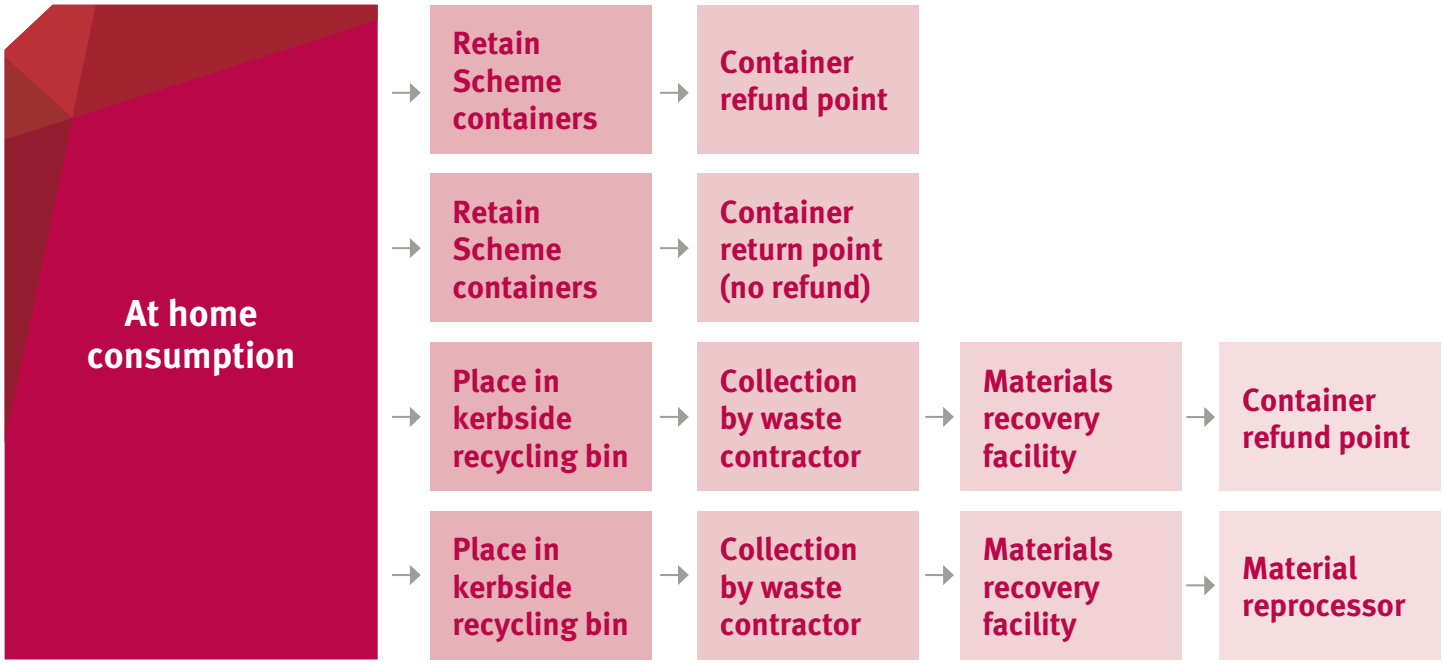

Figure 2. The various pathways for the collection of a container generated 'at home'.

3.2 How will the Scheme work with material recovery facilities?

Material recovery facilities (MRF) will continue to play an important role in recovering containers. Systems and protocols will need to be established to ensure existing operations are complemented, and are not adversely impacted, by the introduction of the Scheme.

There are a number of options for how MRF operators can sort eligible containers.

Sorting eligible containers

- The MRF operator could chose to sort eligible drink containers from other containers that come through the kerbside system.
- The sorted containers could then be presented to a container refund point or the MRF operator may be approved to be a container refund point in order to receive the refund.
- The MRF operator would be eligible for a handling fee as well as the container refund as they are providing a value-add service.
- MRF operators may also consider providing aggregation and consolidation points for small volumes of containers collected in regional and remote areas. This could provide a cost-effective way of transporting material to processors and entitle them to a handling and network fee. Depending on the number of containers and the technology used at the MRF, it may not be cost-effective for the MRF operator to isolate eligible drink containers from the other containers in the system.
- The additional equipment and sorting and handling costs required to isolate eligible containers could add costs to the MRF system and result in potential double handling of the recovered containers through the system.

Estimate methodology

- An alternative to sorting eligible containers involves developing an estimate methodology.
- Under this methodology the MRF operator would be paid the container refund based following an independent assessment of the 'normal' flow of eligible containers through the facility.
- MRF operators would then be able to collate all kerbside recycling materials according material type, irrespective of the original contents of the container.
- This system would avoid potential additional costs to the MRF operator and allow them to retain the material value of the eligible containers.
- No handling fee would be payable to the MRF operator because no change in handling operations is proposed.

It is expected that local governments providing kerbside recycling services will enter into contractual arrangements with MRF operators to equitably share the Scheme refund proceeds. It is also anticipated that, when current collection and MRF contracts expire, open-market tenders for new contracts will sort out appropriate financial distributions.

4 Identifying and tracking eligible containers

Containers returned through the Scheme can be tracked and validated, through the use of technology, including:

4.1 Barcode identification

As well as the refund marking, a barcode may provide another means of identifying and verifying eligible containers.

Barcode scanning to record and control the recovery of used drink containers is used in a number of schemes around the world. The benefits of using barcodes include:

- cost reduction
- efficiency and transparency throughout the scheme, and
- accurate data collection for reporting and financial auditing.

To realise all the benefits of a barcode-based scheme, including fraud prevention and transparency, it would ideally be employed system-wide.

Barcode identification has some potential issues:

- Where containers are not directly redeemed through a system which incorporates barcode reading technology, the material would be transported to the nearest bulk sorter for verification and compaction in order to effectively devalue (or 'kill') the container through the Scheme.
- Not all eligible containers may carry a barcode such as products sold in multi-packs that are not for individual sale. On these products, the barcode is typically on the outer packaging not on the individual container.
- In remote areas it will be more efficient to transport crushed or baled containers, which would make the bar codes unreadable. This makes more than one form of identification and container recognition an important aspect of the Scheme.

4.2 Reverse vending machines

A reverse vending machine (RVM) uses shape recognition technology which means it can potentially identify eligible containers without the need for a barcode or refund marking and still have that container accepted by the machine. The RVMs could be located at consumer destination points or larger automated depots.

4.3 Counting and sorting machines

Highly automated counting and sorting machines may also be used to quickly count the number of containers presented and sort the containers by material. Containers can be bulk-fed into the machine, eliminating single counting and sorting practices. The benefits of this approach are that it provides accuracy and transparency through the system, as well as a point of validation in relation to the volume of containers on which a refund has been paid.

There is also no need for additional counting or handling of the returned containers when they are transported to a consolidation or processing facility. Automated systems have considerable benefit where large volumes of containers may be received as they speed up the process and reduce the risk of error and fraud.

However, it may not always be practical from a cost and volume perspective to install highly automated sorting and counting machines. A counting only machine will provide similar benefits in that it reduces the risk of miscounting and provides for transparency through the system, without sorting by material. These machines may be permanent or mobile.

4.4 Other issues to be considered—recognising refund markings from other states

As most containers in the market already bear the refund marking for South Australia and Northern Territory, it is likely that the Queensland scheme will allow for any eligible container to be returned for a refund in Queensland irrespective of its state of purchase, subject to:

- the beverage being purchased in a jurisdiction where a scheme operates
- the container bearing a valid refund mark or other identifier recognised under the Scheme.

Restricting the redemption of the containers to the state of purchase has the potential to add a degree of inconvenience to the Scheme and may cause some consumer confusion.

5 Scheme targets

Targets will be established to ensure the Scheme meets its objectives.

- Statewide recovery and recycling targets are likely to be established. There is potentially a need to establish metropolitan, regional and remote sub-targets in recognition of the challenges with collecting small volumes in remote areas.
- Appropriate targets will need to be established for the initial start-up period and for the longer-term.
- The following performance targets may be established:
  - Reduced litter impact from beverage containers (measured by counts of beverage container litter volumes).
  - Improved resource recovery (measured by audits of beverage container recycling amounts).
  - Enhanced community benefits.
  - Accessibility of container collection points.

Glossary of terms

Term used in Dicussion Paper	Definition
Container collection point	A formal or informal collection point that has been approved by the government to operate within the scheme. A container collection point may be a container refund point or a container return point.
Container refund point	A formal collection point that has been approved by the government at which empty drink containers can be presented in exchange for the refund amount payable on that container. A container refund point may be permanent or mobile.
Container refund point operator	The government-approved operator of a container refund point.
Container return point	A collection point that has been approved by the government at which empty drink containers can be presented for collection without any refund amount paid. These locations may be informal, non-permanent locations established for special events, or regular, semi-permanent arrangements.
Container return point operator	The government-approved operator of a container return point.
Coordinator arrangement	The arrangement established under legislation between two or more scheme coordinators if required.
Department	The Queensland Department of Environment and Heritage Protection.
Eligible container	An approved container that is designed to hold a beverage and that meets the requirements for the receipt of a 10 cent refund under the scheme.
Implementation Advisory Group	The group of stakeholders established by the Department of Environment and Heritage Protection to provide advice and input into the implementation of the Container Refund Scheme in Queensland.
Recycle/recycling	A set of processes (including biological) for converting recovered materials, which would otherwise be disposed of as wastes, into useful materials or products. Recycling may be 'closed loop' where the reclaimed output is used as an input to the same product system; or 'open loop' where the reclaimed output is used as an input to another product system.
Refund marking	The identifying mark indicating that the container is eligible for a 10 cent refund under the scheme.
Reverse Vending Machine	A device that accepts empty drink containers and returns money or other form of consideration to the user. An RVM may be a single container/material feed machine or designed to accept bulk feed/material types.
Scheme coordinator	The entity or entities responsible for oversight of the scheme, including entering into beverage supplier and network operator arrangements, and transparency and accountability of the scheme, including financial management, auditing, performance monitoring review and reporting.


#31104