



## REVERSE VENDING MACHINES



RECYCLING  
JUST GOT  
CLEVER

[www.recycleclever.co.uk](http://www.recycleclever.co.uk)

# WHY RECYCLEVER®?

## Let's build a circular economy for a more sustainable future

A Reverse Vending Machine, also referred to as an RVM, is a collection point for consumers to return their empty containers. The machine, unlike a smart bin, selectively accepts or refuses containers depending on how the software is set up in conjunction with the onboard sensors.

The users experience ends with a reward for returning the containers. This is in the form of a printed redeemable voucher or a donation to a charity. Adopting Reverse Vending Machines dramatically increases the quota of containers which remain in the circular loop of recycled materials, by tracking the returned containers and rewarding the consumers.

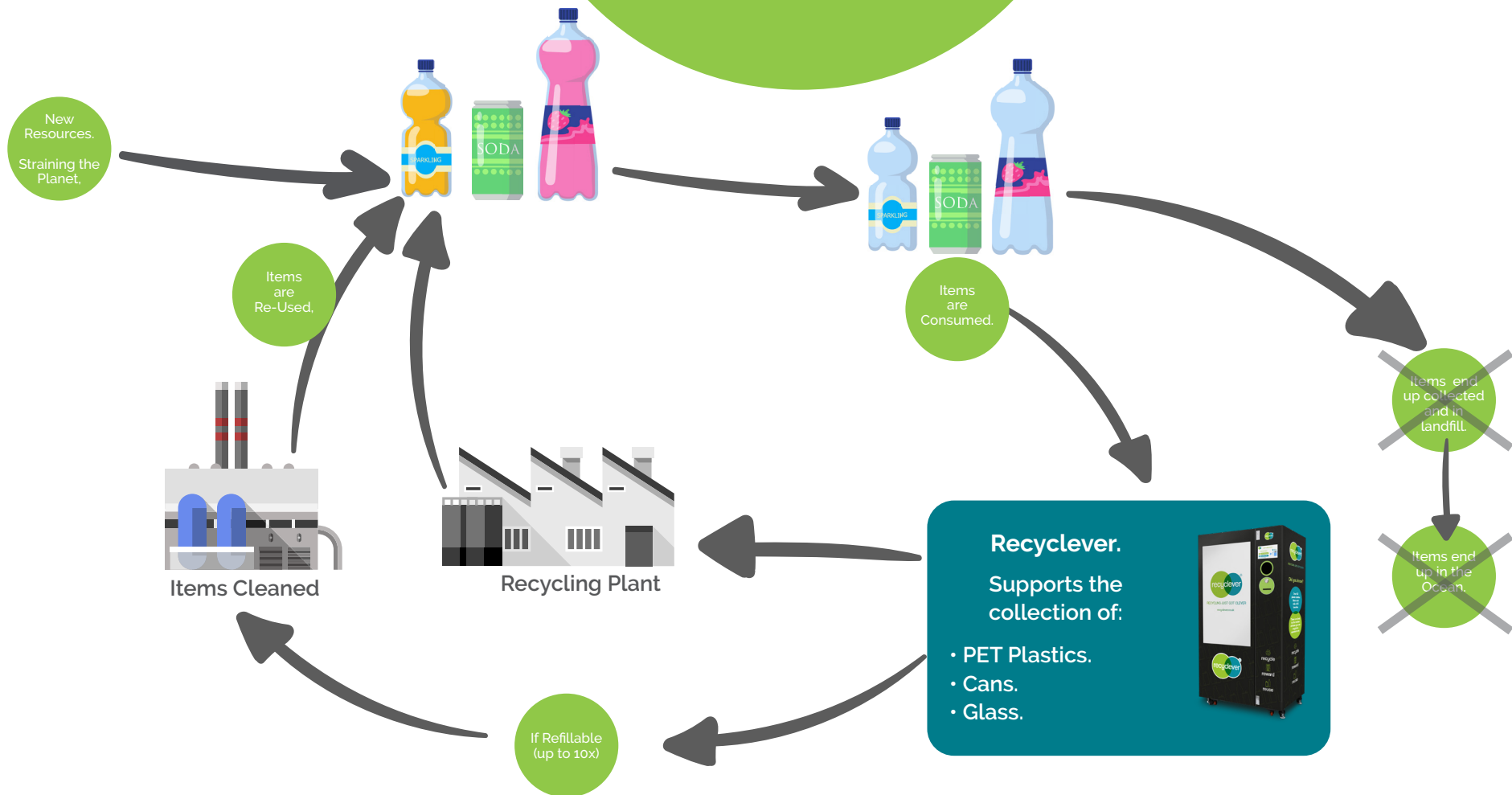


## Partnering with recyclever®

- At Revermatic Ltd T/A recyclever® we are taking reverse vending into the future. An innovative and flexible approach allows stake holders to customise the machines design and software to their needs, working together towards a stronger circular economy.
- recyclever® machines have marketing rich features like the possibility of streaming marketing video content and advertising.
- Gives you the potential to generate revenue therefore making collection and recycling less expensive and hence more successful.



# ACHIEVE THE CIRCULAR ECONOMY



## It's everyone's responsibility!

At recyclever® we believe that it is the responsibility of everyone to dispose of empty containers in a safe and environmentally responsible manner.

We know that incentivising consumers for returning their empties dramatically increases recycling rates, and so do governments. A Deposit Return Scheme (DRS) is an extreme yet very effective measure that governments put in place to increase recycling. They are proven to boost recycling rates from under 50% to above 95%.

## How it Works

With a Deposit Return Scheme, consumers pay a deposit when buying an item (included in the price). The deposit is then redeemed upon proper return of the empty container to the vendor.

# SELECTIVE EMPTIES RETURN - HOW IT WORKS.

## WITHOUT DRS

Consumers do want to recycle more. They can be further incentivised to do so, despite the lack of a government scheme.

To understand your position and understand your investment, consider the development of a '**value cycle**'. This considers the costs and savings that can be made through the implementation of a RVM solution, this should include items such as:

- The **value** generated by streaming ads on our big screen.
- Less curb side collection **savings**.
- **Lower cost** of waste management.
- **Safer** environments within factories.
- Build greater consumer **engagement**.
- Whether you can **involve** a beverage company or other to sponsor your machine.
- Improve the view of your company from a corporate social responsibility (**CSR**) perspective.

Then how you'll deploy, where, when and stages..

Feel free to lean on us, we can help you with this process and supply business cases for different industries and verticals. To see the verticals in which we operate see: [recyclever.co.uk/sectors](https://recyclever.co.uk/sectors)

\*\*Whilst the rules of the to-be-appointed scheme operators can't be known, in the wait for a DRS in your country, investing in RVMs can be future proofed.



## Key Facts

**The majority (83%) of Britons say that more needs to be done to encourage recycling in the UK.**

Source:  
YouGov Survey - <https://yougov.co.uk/top-ics/science/articles-reports/2019/11/04/britons-say-more-needs-be-done-encourage-recycling>

# SELECTIVE EMPTIES RETURN - HOW IT WORKS.

## WITH DRS

With the introduction of a Deposit Return Scheme (DRS) governments aim to increase recycling rates. This is achieved through adding a deposit value on drinks at the point of purchase. This deposit is then returned to consumers when they return the empty containers.

How it works:

**1) A scheme operator is appointed.**

**2) The scheme operator dictates the rules of the system, such as:**

- If you sell drinks, you must take empties and pay deposits back.
- Which drinks containers are included in the scheme.
- Technical aspects (is glass included, recycled or refilled?)
- How the data flows between scheme operator, retailers, machines.

**3) Integration of the system to make empties management cost effective:**

- Integration with till software to scan rewards.
- Data flow between the machine, portal, clients' servers and the scheme operator.

**4) Deploy**

**5) Recycle more!**

\*To understand more about technicalities in deploying a DRS scheme: [recyclever.co.uk/drs](https://recyclever.co.uk/drs)

\*\*Contact us to discuss your individual requirements. For more information check out: [recyclever.co.uk](https://recyclever.co.uk)



## Key Facts

After a short first-use cycle, 95% of plastic used worldwide is not recycled. This is losing a staggering **80-120 billion USD** annually to the economy.

Source:  
"The New Plastics Economy - Rethinking the future of plastics" - <https://www.ellenmacarthurfoundation.org/our-work/activities/new-plastics-economy/reports>

# HOW TO DEPLOY RVMS IN YOUR ESTATE.

## DEPLOYMENT WORKFLOW

### Design the consumer journey.

- DRS compliant or voluntary scheme (Deposit or non-deposit).
- Printed voucher or user recognition and app.

### Assess desired machine locations (shops, communal areas?)

### Set up the information flow.

- APP or Printed voucher rewarding.
- Client's drinks database, with barcodes.
- Machine software specifics, with 4G/wifi connection.
- Recyclever portal, clients' servers, till software, scheme operator.
- Alert system within store.

### The hardware bit.

- Finalise locations. Are they inside or outside? Layouts.
- Machines colour and printed wrap.
- Who maintains the machine (operates/cleans and services the machine)?
- Consumables: Bins liner and printers papers.

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### Upload.

- Barcodes and weights.
- Shapes or diameters.
- Translation (of software and portal).

### Rollout installation/Deploy.

# HOW DOES THE RVM WORK?

## How it works

### Step 1

Start Session



### Step 2

Scan Containers



### Step 3

Shape and Weights. Checks via the barcode.



### Step 4

Compact or Stack (Glass).



### Step 5

Reward, Either: Printed or via the App.



### Step 6

Transaction is logged in the recyclever portal, in clients' portal, in scheme operator's feed.

	Coca Cola	330ml
	Coca Cola	500ml Cok.
45	Coca Cola	1ltr Coke Reg.
678	Coca Cola	2ltr Coke Regu
2234	Coca Cola	250ml Coke Reg
4445	Coca Cola	250ml Coke Die
5678	Coca Cola	330ml Coke Che
2234	Coca Cola	500ml Coke Ch
145	Coca Cola	1ltr Coke Che
9	Coca Cola	2ltr Coke Ch
	Coca Cola	250ml C
	Coca Cola	250ml C

## At All times

- A high resolution touch screen casts valuable information to the machine operator.
- A hardware button allows ending of the session at any time.
- The big screen streams advertising and other media.

The department responsible for the estate should clean the machine regularly, empty the compacted containers, refill paper and replace liner bags in the bin(s). **Contact us if maintenance is required.**



# THE REVERSE VENDING MACHINE

## Dimensions

### Retail friendly sizes

Standard size: **W1420 x D 810 x H1900mm**

Optional size: **W1620 x D810 x H 1900mm**

New Sizes are in production:

- Smaller footprint machine, with 32" screen.
- Sizes for glass.
- Weight: **300kg**.

## Two opening doors

- Unique and functional for convenience stores with narrow aisles .
- Strong full height hinges.
- Security locks with push button release.
- Power cut off when doors open for complete safety.
- Smaller aisle space required to open the 2 doors making it easy to retrofit.
- Space saving - retail friendly.

## Easy to move and install

- Wheels for easy transportation with integrated levellers for final positioning.



## Vinyl wrap

- The machine has a durable powder coat paint with a 0.2mm thick vinyl wrap.
- Vinyl wrap design can be customised for orders of 25 or more machines.

## Ergonomic design

- The height of the opening to insert the containers is ergonomically set.
- The end of session button is easily accessible.
- Store personnel have easy access to the secure locks.
- Doors open seamlessly.

## Built for interior use

- Can be positioned outside under canopies.



## Solid durable construction

- Made from steel - 12mm thick with 15mm bottom reinforcement tube.
- 3mm thick reinforcement for compactor.
- Special frame design to strengthen bottom with ample space for the bin.



# THE MODULES

## Marketing screen

- Dimensions: 1074mm x 605mm.
- Definition: 1920 x 1080p.
- Connections: VGA x 1, HDMI x 1
- Maximum power: 55W.
- Standby power: 3W.
- Optional media streaming box.



## Printer

- Paper width 80mm.
- Circa 400 vouchers can be printed per roll.
- Printing speed - 100mm / second.
- Working temperature -20 to 50°
- Definition 203DPI
- Paper roll change time - one minute.



## Compactor (optional)

- 2 x 250W powerful motors.
- Wings and blades that catch, position and compress the container, destroying the bar code to avoid fraudulent re-vending.
- Wings and blades are stainless steel to prevent rusting if liquids escape.

## Wheelie bin

- Bin size: H920 x W920 x D620
- 50mm diameter Wheels.
- Material: Durable PVC .
- Integral plastic handle for easy removal.

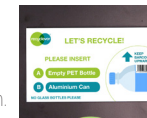


Supplied with panels that cover the internal workings.



## Touch screen

- Dimensions: 221 x 125mm.
- Definition: 1920 x 1080p.
- Multi touch screen.
- Windows 10 operating system.



## Opening for containers

- Opening - 120 mm.



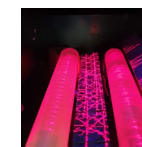
## Hardware

- Stainless steel button with green illumination.
- Button diameter 40mm.



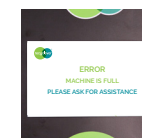
## Feeder with scanners

- 6 x 3d Barcode Scanners for accurate recognition.
- When the bottle is put in the machine the system will weigh it before it is scanned.
- If the container is not empty it will be returned.
- If the container is empty it will be rotated automatically and scanned.



## Fill sensor

- Uses an ultrasonic sensor to detect the distance between the sensor and the bottles, if it's less than 15cm (this figure can be adjusted if required) the notification will then appear on the screen.



# THE MODULES

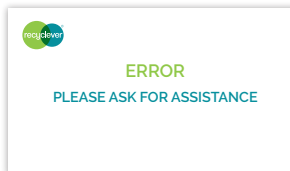
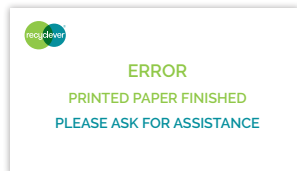
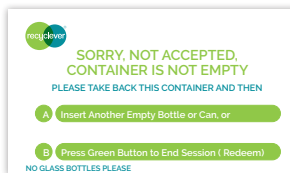
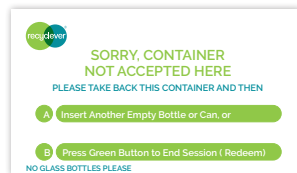
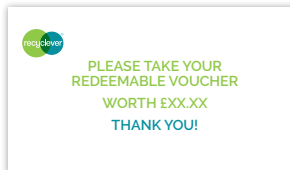
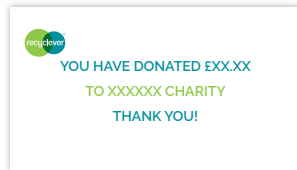
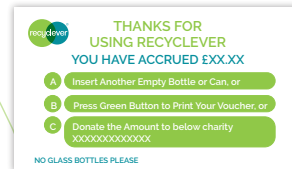
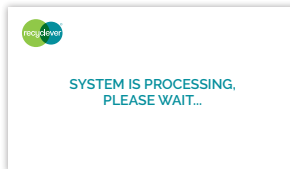
## Customer screens

Standard messages the consumer sees.

One of these options appear at the end of each session.

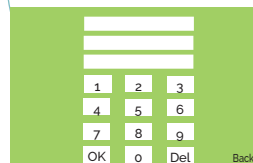
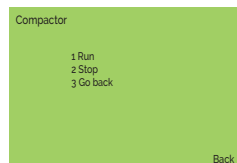
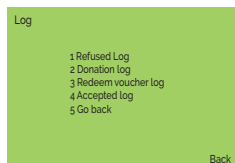
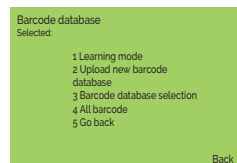
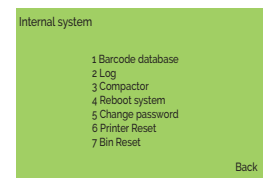
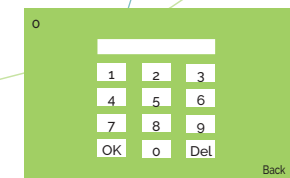
During operation one of these could appear.

Error messages.



## Operator screens - Hidden and PIN protected

To access the operator menu press the top right hidden corner of the screen.



## Learning mode



The machine can accept any container or only those within a database. The database can be uploaded digitally or be set up manually, which is recommended if a small range of containers has to be accepted.

To programme it, simply go into Learning Mode and scan the containers manually.

## Example logs

Log accepted



Log donated



Log refused



Log printed



# MARKETING OPERATING SYSTEM

## Large full HD screen

- 49" Full HD Screen.
- 1920 x 1080p, Portrait Display.
- VGA Connection x 1
- HDMI Connection x 1
- Can be touch activated or static display.

## Optional 4G or Wi-Fi connection

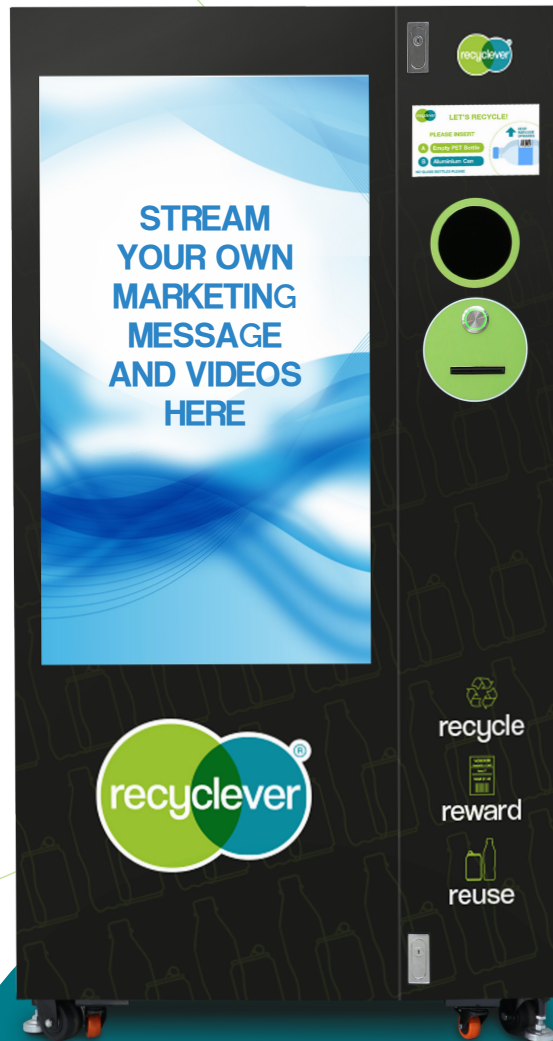
- Makes managing content simple.
- Both Wi-Fi and 4G router are very easy to connect to the main computer in the machine.
- The Wi-Fi connection only takes a few seconds to fit
- The 4G router requires connecting to the power, then attach the internet wire to main board and connect to the antenna.
- It is all very easy and only takes a few minutes to complete.

## USB Connection

- The big screen is separate to the machine computer.
- Optional media box to play videos or display pictures.
- Easily loop videos or pictures via a USB.

## Optional camera and motion sensor

- The camera brand is Logitech.
- Definition 1920 x 1080.
- Detection angle 78°/90°
- Noise-cancelling microphone.



## On screen advertising - A great way to offset your investment.

The large 49" portrait HD display gives your business a fantastic opportunity to offset your investment by offering it as advertising space.

## Optional future-proof media box

- Media box available with VGA, HDMI and USB connections. You can then stream all the content you want on the 49" high definition screen via USB. Simply connect it to the media box and play.

## Optional proximity sensor

- Infrared human sensor.
- Detection angle 120°
- Max detect distance 7m (can be adjusted based on needs).
- Sensor size D=23mm.

## Optional speakers

- The sound volume of the standard speaker is 110db.
- A speaker upgrade is available on request.

Patent Pending  
European Application no EP19185510

# CONNECTIVITY AND MAINTENANCE

## Connectivity

### Without connectivity

- Manage media content locally with a USB.
- Use one-off Wi-Fi connection to update media box.
- Use learning mode to manage databases.
- Upload barcode databases via USB.
- Download logs via USB of:
  - Accepted containers.
  - Refused containers.
  - Sessions history.
  - Donations made.
  - Printed tickets.

## Maintenance

### What you need to do

- Plug in 240V connection.
- Insert bags.
- Insert paper.
- Clean.
- Turn on and off.
- Upload media content via a USB.
- Download USB logs.
- Dispose responsibly of the bag of crushed empty containers for recycling.

### If 4G or Wi-Fi enabled

- Access portal to download history.

\* Coming soon.

### With connectivity Via 4G or Wi-Fi

- Use 4G module or connect to local Wi-Fi to:
  - Manage media content remotely.
  - Remotely manage advertising.
  - Upload barcode databases.
  - Change OS touch screen.
  - Download all logs.
  - Interact with Consumer APP\*
  - Interact with Portal\*



Consumer APP

Card reader

Estate management portal



### Where recycleclever® can help

- Installation.
- Regular maintenance and cleaning.
- On call with SLA breakdown cover.
- Recycling collections.
- Media content management.
- 4G service.

# BUY, LEASE OR RENT

## Buy, lease or rent. The choice is yours.

At recyclever® being innovative means making it possible to recycle more and enhance the inclusive circular economy. We thought of all elements that decision makers will have to consider and we prepared different commercial ways to deploy RVMs.

Depending on the type of business you represent, the targets you want to achieve and the practical aspects of your deployment of machines, we would recommend either Owning, Leasing or Renting. There are different advantages in each scenario involving overall cost of ownership and tax implications. The machine will require servicing from your staff for the most basic needs, and we offer optional maintenance, emptying and recycling services.

## Options available

### Buy

Buy the machines outright from day 1. You will receive a VAT invoice and as it is a capital expenditure you can consider capital asset finance. Bolt on services like regular maintenance visits or on call visits can be organised outside the sale and purchase agreement.

### Lease

Deploy the machines with a leasing agreement. It can be set up over 2, 3, 4 or 5 years to spread the cost and your project starts by just paying monthly fees. You will be responsible for ensuring the machines are kept in good working order. Bolt on services like regular maintenance visits or on call visits can be organised outside the leasing arrangement. Not available outside the UK.

### Rent

If your container collection activities are time limited and connected to specific events, why not rent the machines? Our service will include delivery and collection. You will be responsible for keeping them in good working order. The servicing elements are available pending availability of machines. **Not available outside the UK.**

