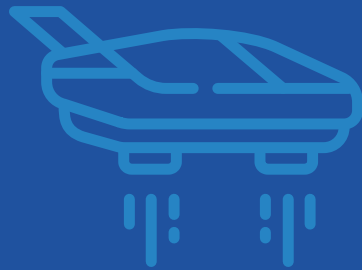


# RETURN TO THE FUTURE

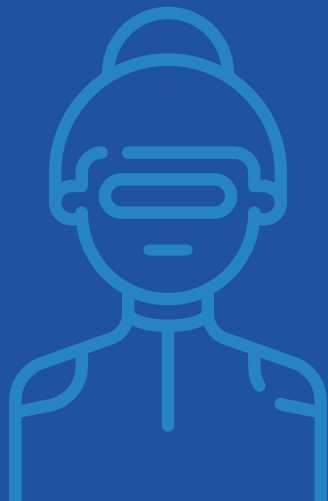


Over two billion environmental deeds every year

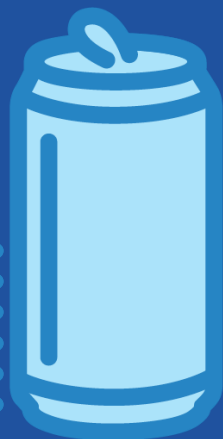
# Recycling allows you to send a bottle or can into the future!



- A deposit is paid on almost all beverage containers in Finland.
- The deposit paid is returned when you return the bottle or can for recycling.
- By recycling a bottle or can, you may find it on the shelf of a shop far in the future – as a new bottle or can.
- A container with a deposit is indicated with a deposit marking that also shows the value of the deposit (10, 15, 20 or 40 cents).



# Each year, the average Finn returns...



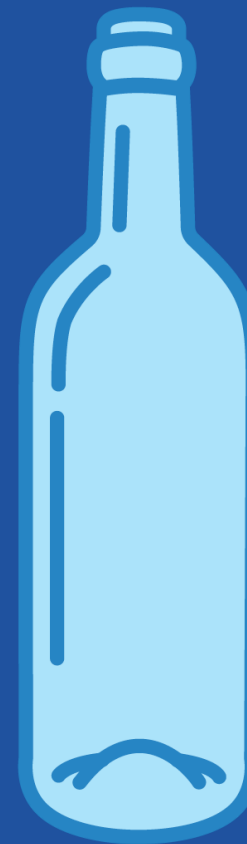
**263**

CANS



**118**

PLASTIC  
BOTTLES



**24**

GLASS  
BOTTLES

# Each year, returning bottles and cans results in the recycling of...



**20,000 T**  
**ALUMINIUM,**

which corresponds to  
the weight of 1,320  
buses



**49,000 T**  
**GLASS,**

which corresponds to the  
weight of 11 cruise  
ships



**17,000 T**  
**PLASTIC,**

which corresponds to  
the weight of 84  
jumbo jets



- When did you last return bottles or cans to a shop?
- Estimate how many beverage containers you empty per month. What about your family?
- What good does a deposit do for recycling?
- Which other ways could be used for recycling beverage containers?
- What is done elsewhere in the world to empty beverage containers?

**RETURN **  
**TO THE FUTURE**

**Containers with a deposit**

**TRAVEL COMPANIONS  
TO THE FUTURE**



# Can



- A can is disposable, but the aluminium used for it can be reused almost infinitely.
- Approx. 47 cans are returned per second.
- Approx. 98 per cent of cans are returned the future, that is, back into circulation.

Value of deposit:



# Plastic bottle



- Each bottle is sold filled only once, but the PET plastic used for it can be recycled in many ways.
- Approx. 21 plastic bottles are returned per second.
- Approx. 90 per cent of plastic bottles are recycled.



Value of deposit:   



# Glass bottle



- A bottle is used only once, but the scrap glass obtained from it can be recycled almost infinitely.
- Approx. 4 glass bottles are returned per second.
- Approx. 99 per cent of glass bottles are recycled.
- Some glass bottles do not have a deposit marking. In this case, the deposit can be checked from the price tag on the shelf or the receipt.



Value of deposit:



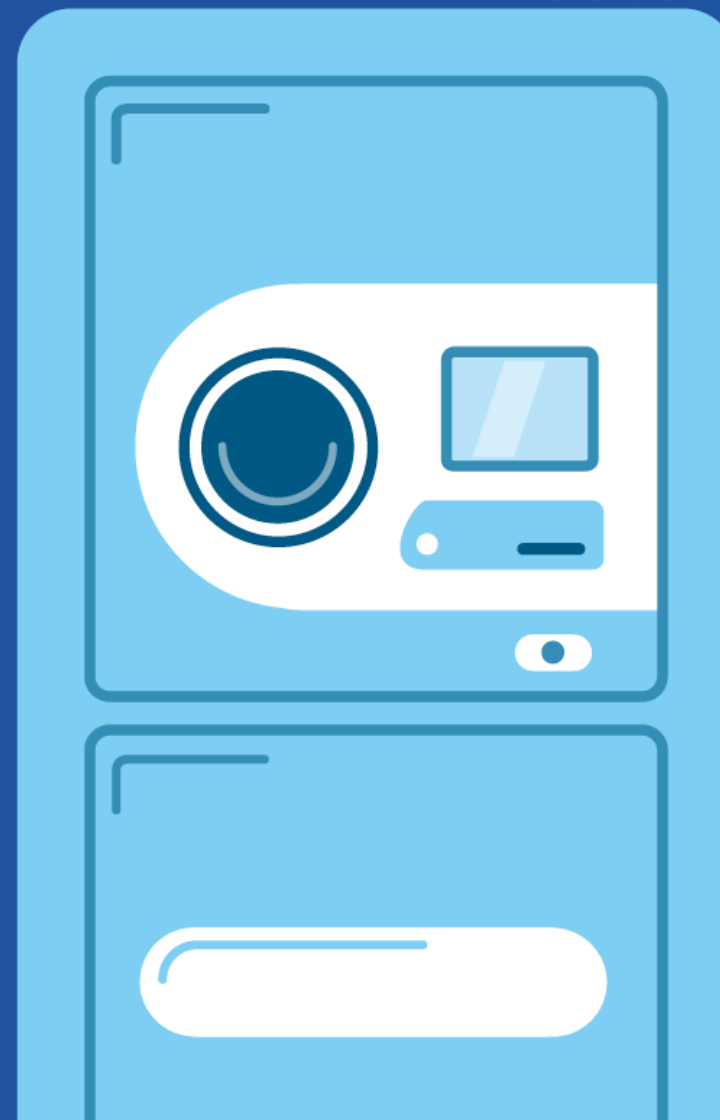


- Why isn't the return rate for all bottles and cans as good?
- What happens to the bottles and cans not returned for recycling?

**RETURN **  
**TO THE FUTURE**

**Towards the future!**

**THIS IS HOW THE  
REVERSE VENDING  
MACHINE WORKS**





# ① Returning

- The reverse vending machine examines the barcode of the beverage container with a scanning ray of light and its shape with cameras.
- It uses this data to identify the type of can or bottle.

## ② Sorting



- Based on the identification, the machine sorts the beverage containers according to the material into separate containers.
- Usually, the machine also crushes plastic bottles and cans to make transporting and processing them more efficient.

## **PALAUTA** **TULEVAISUUTEEN**

Tölkki x 5  
Muovipullo x 9  
Lasipullo x 7  
Pantiton x 3

**2,25 €**



### **3** Deposit

- The reverse vending machine prints out a receipt for the returned bottles and cans.

# What if the machine is not working?



- Fluids and debris hamper the operation of the machine. Only return empty bottles!
- The reverse vending machine can stop if running out of receipt paper or its containers becoming full.
- The machine cannot recognise crushed cans or bottles that are missing a label completely or partly.



# It is worthwhile recycling beverage containers even if they do not have a deposit!



- Cans to a reverse vending machine or metal collection point
- Glass bottles to a glass collection point
- Plastic bottles to energy waste or mixed waste







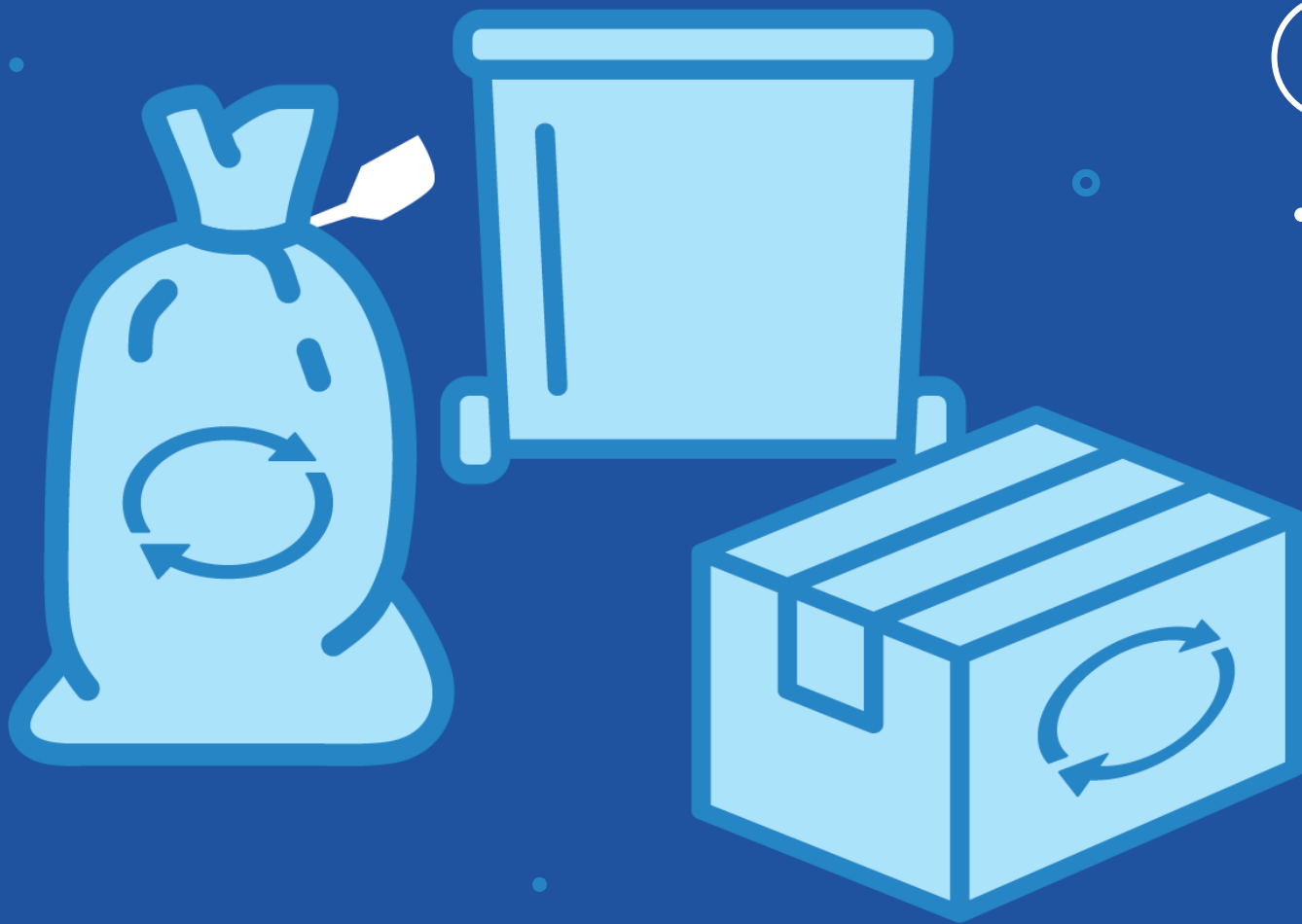
- Why should waste in general be sorted carefully?
- Why does it make sense to crush cans and bottles already at the shop?
- Why is it important that the reverse vending machine identifies the containers correctly?
- What benefit is there in the reverse vending machine being able to sort beverage containers of different types accurately into separate containers?

**RETURN**   
**TO THE FUTURE**

**Towards the future!**  
**WHAT HAPPENS**  
**AFTER THE REVERSE**  
**VENDING MACHINE?**

# ① Container

- The reverse vending machine sorts the containers and they are packed at the shop for transport.





## ② Transport

- The bottles and cans are transported from the return location to the handling plant or brewery.

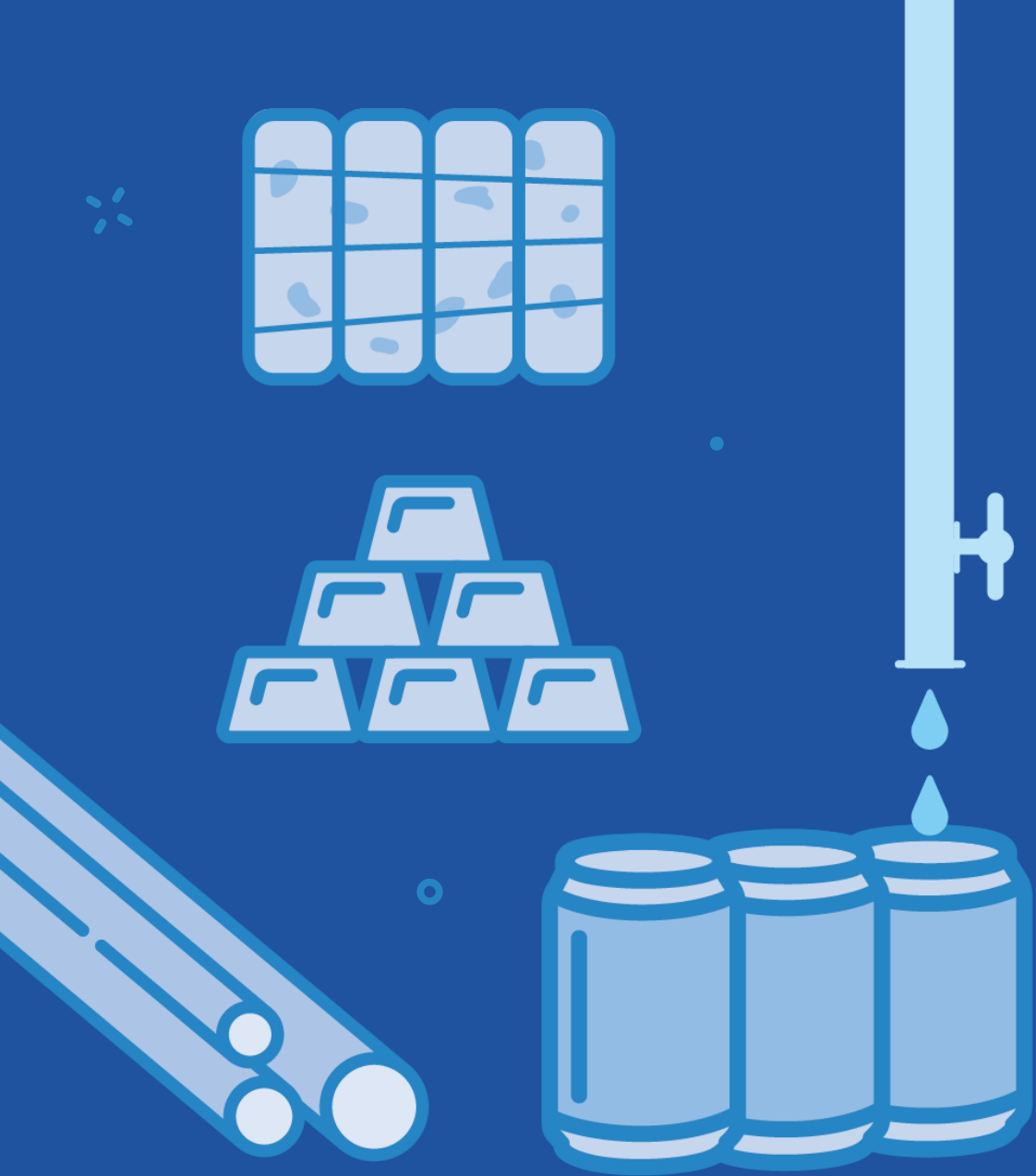


3a

## Processing of a can

- Compression into bales
- Transport to further processor
- Melting
- Shaping into aluminium bars
- Rolling into thin sheets
- Production of new cans

In practice, all aluminium obtained from cans is used for making new cans.





## 3b

# Processing of a plastic bottle

- Compression into bales
- Transport to the reprocessor
- Sorting
- Milling
- Production of recycled raw material
- Production of new products

Most of the plastic in plastic bottles is used to make new bottles.



### 3c

# Processing of a glass bottle



- Transport to the reprocessor
- Crushing
- Cleaning
- Sorting by colour
- Reuse

Crushed glass mainly produces new bottles, as well as, for example, jars, glass wool and foam glass.



- Which of the items you own may have been plastic bottles in the past?
- Think about what and who it takes to get a bottle or can bought from a shop from return location back to the shop shelf.
- Would you take bottles and cans to recycling if there was no deposit? Why or why not?





**Thank you for being  
part of creating  
a better future!**



Read more at <https://palpa.fi/english/>

