



Come up with various **packaging examples in supermarkets** that could be interesting for reusable packaging.

Please sketch, write down or put images in the boxes

less
plastics

Candy &
biscuits

Shopping
bags

Cleaning
products

Cosmetics
& personal
hygiene

Dry goods
(e.g. rice,
nuts etc)

Dairy
products

Anything in
glass - jams,
sauces, beer,
wine, instant
coffee

Water!

bags for
bread/
vegetables

Softdrinks
and juices

Flowers

Seen trials of a
range of home
care goods e.g.
washing liquid

Candle
holders??

Coffee
pods

Beauty
products
(liquid
form)

Coca-cola
universal
bottle

Ice-cream
tubs
(metal)

Milk &
tetra pak
items

modular
container
customizable

Divergent Mindset:
Postpone judgment

- Break free from the constraints of traditional packaging format, and envision packaging as a product.
- Sketch or write down your ideas **as many as possible** in **8 minutes** for each HMW.
We will discuss **2 minutes** and move to the next board.
- The interventions can be as diverse as your imagination allows! Also, **build on the ideas of others!**
- You can think about solving these barriers and unintended behaviour as a starting point!

🧠 Long-term barriers

Forgetfulness

'Oh! I forgot to bring my packaging to the shop!'



Skepticism

'I don't believe reusable packaging is more sustainable than single-use ones.'



Wear and Tear

'The scratches on the container make it look old and less functional.'



Cleaning

'Cleaning my reusable packaging every time is an annoying and extra task.'



🧑 Unintended behaviour

Early Replacement

'I get bored with my old container and want a new one.'



Excessive Purchase

'I have multiple reusable packaging for the same purpose.'



Insufficient Reuse

'I only reuse it occasionally. Usually it is just left in my storage'



Feel free to copy these cards to brainstorming and strategy boards:)



Circular Design Challenge: Design reusable packaging that you keep on using!

Welcome and Introduction 14:30-14:45

Welcome and Recap on Design Challenges	5 min
Warm-up and Get into topic	5 min
Introduce Design Strategies	5 min

----- 5 min Break -----

Brainstorming and Ideation 14:50-15:35

Brainstorming and ideation based on four How Might We Questions	45 min
---	--------

Strategy Interpretation and Sharing 15:35-15:55

Cluster ideas and form design strategies	5 min
Interpret and Name your strategy	10 min
Share your results with others	5 min

----- 5 min Break -----

Challenge

Reusable packaging typically employs resource-intensive materials to ensure longevity. These items are supposed to be **used frequently over a long duration** to be more environmentally friendly than their single-use equivalents. However, consumers may **acquire reusable items excessively, forget about them, leave them unused, or prematurely discard them**, inadvertently diminishing the potential environmental benefits of reuse.

Session outcomes

We invite design solutions to address barriers in reusable packaging.
At the end of this 90-minute session, we look forward to collecting your ideas in prolonging lifespan of reusable packaging and cultivating enduring reuse behaviour.

Your output will be used as valuable explorative resources in scientific research!

Q1: How might we use **(digital) Technologies** to build a long-term relationship with reusable packaging?

Example: Digital Product Passport

It can provide information about product design, materials, manufacturing process and sustainability impact.



Q2: How might we add **Social Values** to enhance the social desirability of reusable packaging?

Example: Product interactions

Design can help increase the social desirability of long-lasting products by encouraging specific product interactions.



Q3: How might we use **Packaging Appearance** to trigger consumers' positive emotions over time?

Example: Graceful ageing

Design can emphasise the multiple lifetime by showing positive effects on the packaging appearance, therefore, evoking consumers' positive emotions.



Q4: How might we communicate the **Environmental Impacts** of continued usage of reusable packaging?

Example: Nature connectedness

The sense of belonging to the natural environment is associated with sustainable consumption.



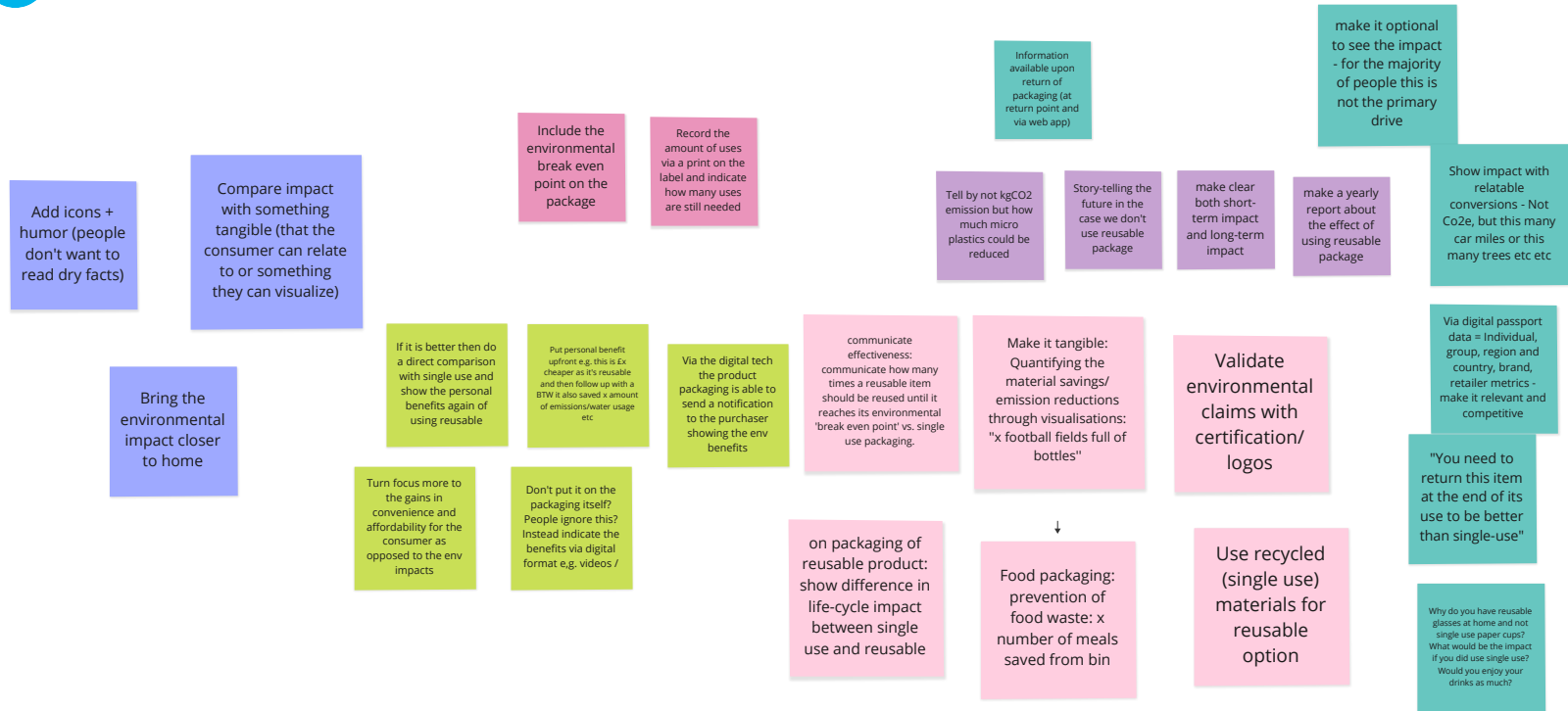
Convergent Mindset:
Affirmative judgment

- Review all ideas generalised on the four boards (~ 5 min)
- Cluster: Select ideas to form your design strategy,
COPY all relevant ideas to your 'strategy box(es)'.
Add more ideas if they pop-up! (~ 5 min)
- Interpret your design strategy,
write a short description and give it a name:) (~ 5 min)
- Share your results (~ 5 min)

How might we use (digital) Technologies to build a long-term relationship with reusable packaging?



How might we communicate the **Environmental impacts** of continued usage of reusable packaging?



Technology-oriented strategies

STUART

Copy all relevant ideas and conceptualise at least one strategy

Strategy 1: Refill Sensing & Reward

Description: linking packaging to an action - purchase, refill or return and giving a reward or impact tacking

Add feature on supermarket app where you see all the reusables that are in your possession + get notified

Packaging that warns you when you are used to do

Incentivise via points at the relevant supermarket e.g. reuse one item of packaging and get x number of points/credit towards next purchase

Include the environmental break even point on the package

Automatic replenishment notifications - Amazon link

Packaging is connected to users phone and able to notify when running low on goods inside the packaging and plan a shopping trip around the users calendar /busy times

Save for a reward or discount every time you check out a reuse item.

Automatic refill sensors in packaging

Strategy 3: Social Technology

Description: giving the packaging a social footprint

Lifestyle assessment to recommend where you can have the highest impact

Bring the environmental impact closer to home

Celebrity golden ticket bottles - did you know this bottle was used previously before by....(INSERT YOUR FAV PERSON HERE)

create a tamagochi-like avatar that gets sad when you do not re-use.

Keep track of who have used the packaging before you and see where they are located (so that you have a map of all places the packaging travelled to

Turn focus more to the gains in convenience and affordability for the consumer as opposed to the env impacts

Put personal benefit upfront e.g. this is Ex cheaper as it's reusable and then follow up with a BTW it also saved x amount of emissions/water usage etc

Strategy 2: Consumer facing data

Description: making digital passport data visible to the consumer

Gamification: e.g. gain points for returning packaging

re-use footprint calculator to track your overall performance/ emissions reduction

Personal asset library - these are the items you own right now (and history)

Keep track of who have used the packaging before you and see where they are located (so that you have a map of all places the packaging travelled to

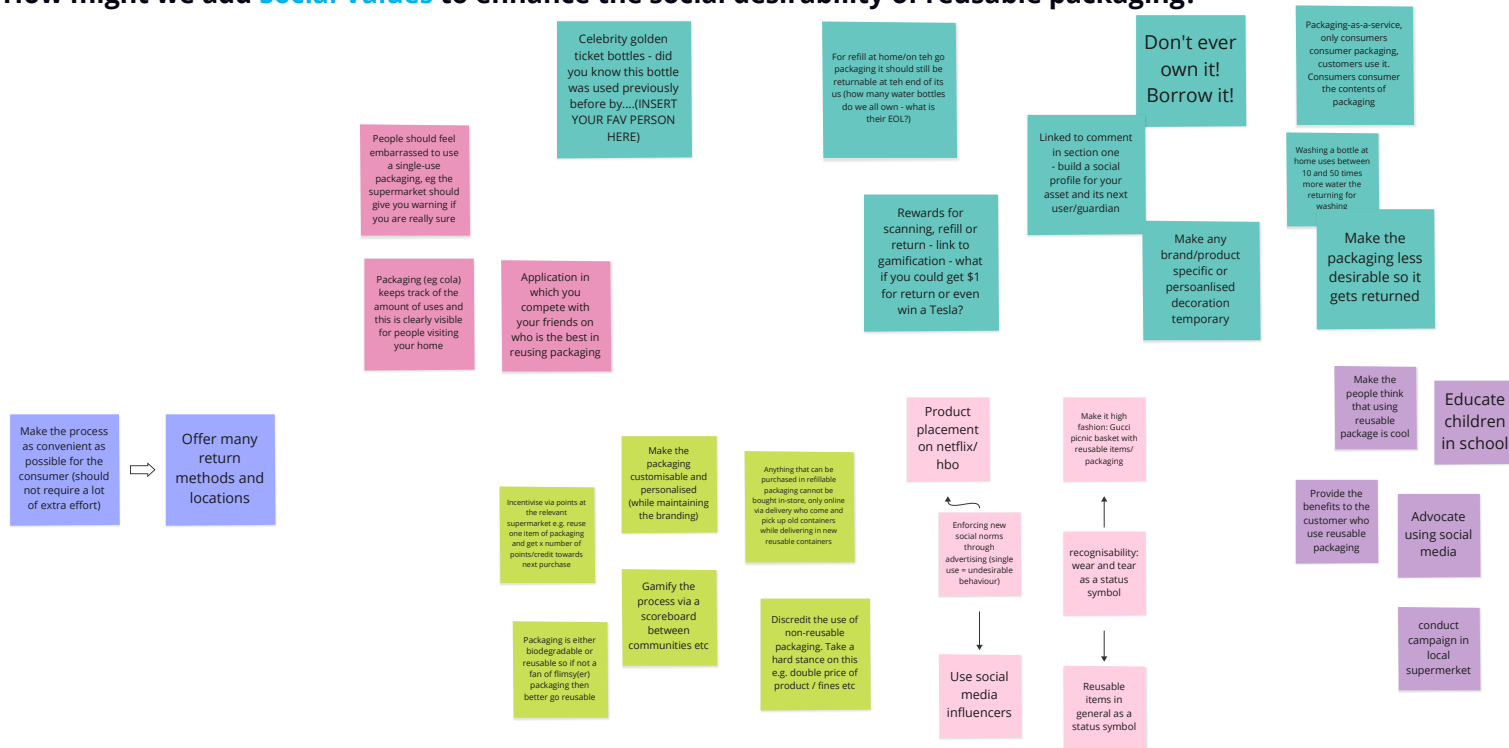
Story-telling the future in the case we don't use reusable package

Strategy 4: (name)

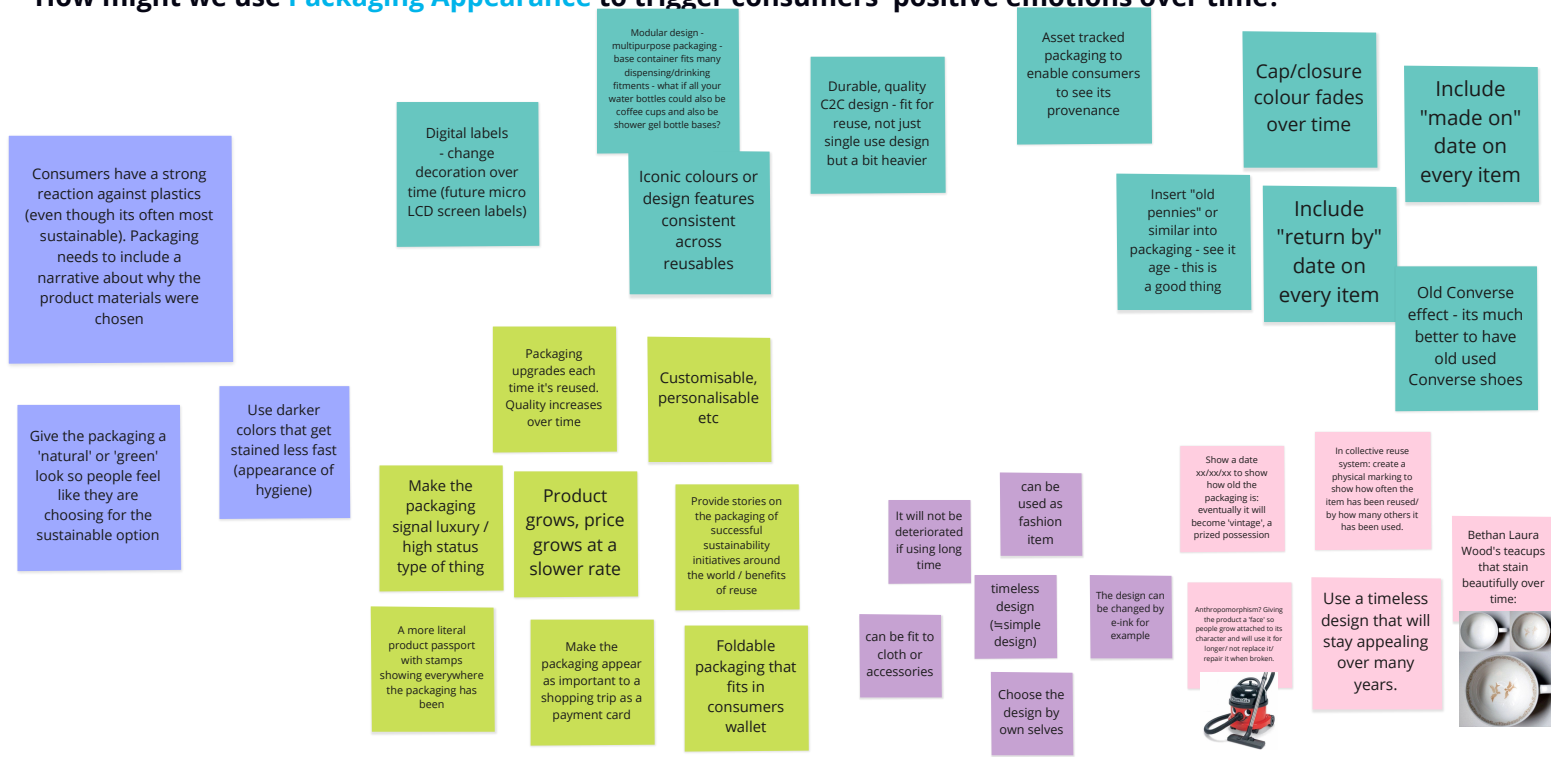
Description:

Make it tangible: Quantifying the material savings/ emission reductions through visualisations: "x football fields full of bottles"

How might we add Social Values to enhance the social desirability of reusable packaging?



How might we use **Packaging Appearance** to trigger consumers' positive emotions over time?



Social Value-oriented strategies

KEITA

Copy all relevant ideas and conceptualise at least one strategy

Strategy 1: Make visible

Make the impact of using reusable package clear

Make it tangible:
Quantifying the material savings/
emission reductions
through visualisations:
"x football fields full of
bottles"

Provide the
benefits to the
customer who
use reusable
packaging

Include the
environmental
break even
point on the
package

conduct
campaign in
local
supermarket

Strategy 3: Additional values

Provide the additional values

Offer many
return
methods and
locations

Celebrity golden
ticket bottles - did
you know this bottle
was used previously
before by....(INSERT
YOUR FAV PERSON
HERE)

Put personal benefit
upfront e.g. this is Ex
cheaper as it's reusable
and then follow up with a
BTW it also saved x amount
of emissions/water usage
etc

Turn focus more to
the gains in
convenience and
affordability for the
consumer as
opposed to the env
impacts

Strategy 2: Change image

Change the image of using reusable package

Make any
brand/product
specific or
personalised
decoration
temporary

Make the
people think
that using
reusable
package is cool

Story-telling the
future in the
case we don't
use reusable
package

Strategy 4: Change mind

Make customers feel more important using reusable packages

Educate
children
in school

Advocate
using social
media

Bring the
environmental
impact closer
to home

People should feel
embarrassed to use
a single-use
packaging, eg the
supermarket should
give you warning if
you are really sure

Product Appearance-oriented strategies

ROBERT

Copy all relevant ideas and conceptualise at least one strategy

Strategy 1: Timeless and Iconic

Description: Make the packaging timeless, iconic and green

timeless
design
(=simple
design)

The design can
be changed by
e-ink for
example

Give the packaging a
'natural' or 'green'
look so people feel
like they are
choosing for the
sustainable option

Use darker
colors that get
stained less fast
(appearance of
hygiene)

Use a timeless
design that will
stay appealing
over many
years.

Strategy 2: Consumer autonomy

Description: Make the packaging fashionable by giving consumers the autonomy over how their packaging looks like

Digital labels
- change
decoration over
time (future micro
LCD screen labels)

Customisable,
personalisable
etc

Make the
packaging
signal luxury /
high status
type of thing

Choose the
design by
own selves

The design can
be changed by
e-ink for
example

Strategy 3: Make the packaging a product

Description: Packaging becomes a part of the outfit

Foldable
packaging that
fits in
consumers
wallet

can be fit to
cloth or
accessories

Make the
packaging appear
as important to a
shopping trip as a
payment card

Strategy 4: Don't fear growing old

Description: Show the effects of time as a positive thing

Show a date
xx/xx/xx to show
how old the
packaging is:
eventually it will
become 'vintage', a
prized possession

In collective reuse
system: create a
physical marking to
show how often the
item has been reused/
by how many others it
has been used.

Bethan Laura
Wood's teacups
that stain
beautifully over
time:

Packaging
upgrades each
time it's reused.
Quality increases
over time

Include
"return by"
date on
every item

Include
"made on"
date on
every item

Environmental impact-oriented strategies

DJANAH

Strategy 1: Make it tangible

Description:

Make it tangible:
Quantifying the material savings/
emission reductions
through visualisations:
"x football fields full of
bottles"

Bring the
environmental
impact closer
to home

Show impact with
relatable
conversions - Not
Co2e, but this many
car miles or this
many trees etc etc

Food packaging:
prevention of
food waste: x
number of meals
saved from bin

Copy all relevant ideas and conceptualise at least one strategy

Strategy 2: Facts & data

Description:

Include the
environmental
break even
point on the
package

Via digital passport
data = Individual,
group, region and
country, brand,
retailer metrics -
make it relevant and
competitive

make a yearly
report about
the effect of
using reusable
package

on packaging of
reusable product:
show difference in
life-cycle impact
between single
use and reusable

Strategy 3: Personal gains

Description:

Turn focus more to
the gains in
convenience and
affordability for the
consumer as
opposed to the env
impacts

make it optional
to see the impact
- for the majority
of people this is
not the primary
drive

Put personal benefit
upfront e.g. this is Ex
cheaper as it's reusable
and then follow up with a
BTW it also saved x amount
of emissions/water usage
etc

Strategy 4: Appeal to emotions

Description:

"You need to
return this item
at the end of its
use to be better
than single-use"

Story-telling the
future in the
case we don't
use reusable
package

Thank you for all your input 🎉

Could you share us with your **Background**
and **Years of experience in design?**
Comments about this workshop are also welcomed!



Stuart Chidley - I'm not a designer, lots of experience in FMCG, Beauty, retail and branded goods. Currently running and building a collaborative reusable packaging platform with multiple brands and retailers in many categories.

Jos - Industrial design engineer by training, working in circular economy consulting for +/- 4 years

Robert - business designer working closely with service and system designers and strategists to implement circular business models across the consumer goods industry. Worked in circular economy for ~4 years

Djanah- advisor circular economy. Background in Sustainable Business and Innovation. Research on reusable packaging systems.

If you have questions, please reach out to our research team!



Xueqing Miao
PhD candidate on reusable packaging systems at TUDelft
X.Miao@tudelft.nl



Dr. Lise Magnier
Assistant Professor of Sustainable Consumer Behaviour at TUDelft
L.B.M.Magnier@tudelft.nl



Prof. dr. ir. Ruth Mugge
Professor in Design for Sustainable Consumer Behaviour at TUDelft
Professor in Responsible Marketing at UvA
R.Mugge@tudelft.nl