

TIME TO CHANGE

THE HONG KONG POLYTECHNIC UNIVERSITY
SCHOOL OF DESIGN
MASTER OF DESIGN, INTERACTION DESIGN
SD5528 GRADUATE STUDIO WORKSHOP II

PROF
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Research Analysis

Primary and Secondary Research
Observations

Behaviour Analysis

Observation Video
Key Findings

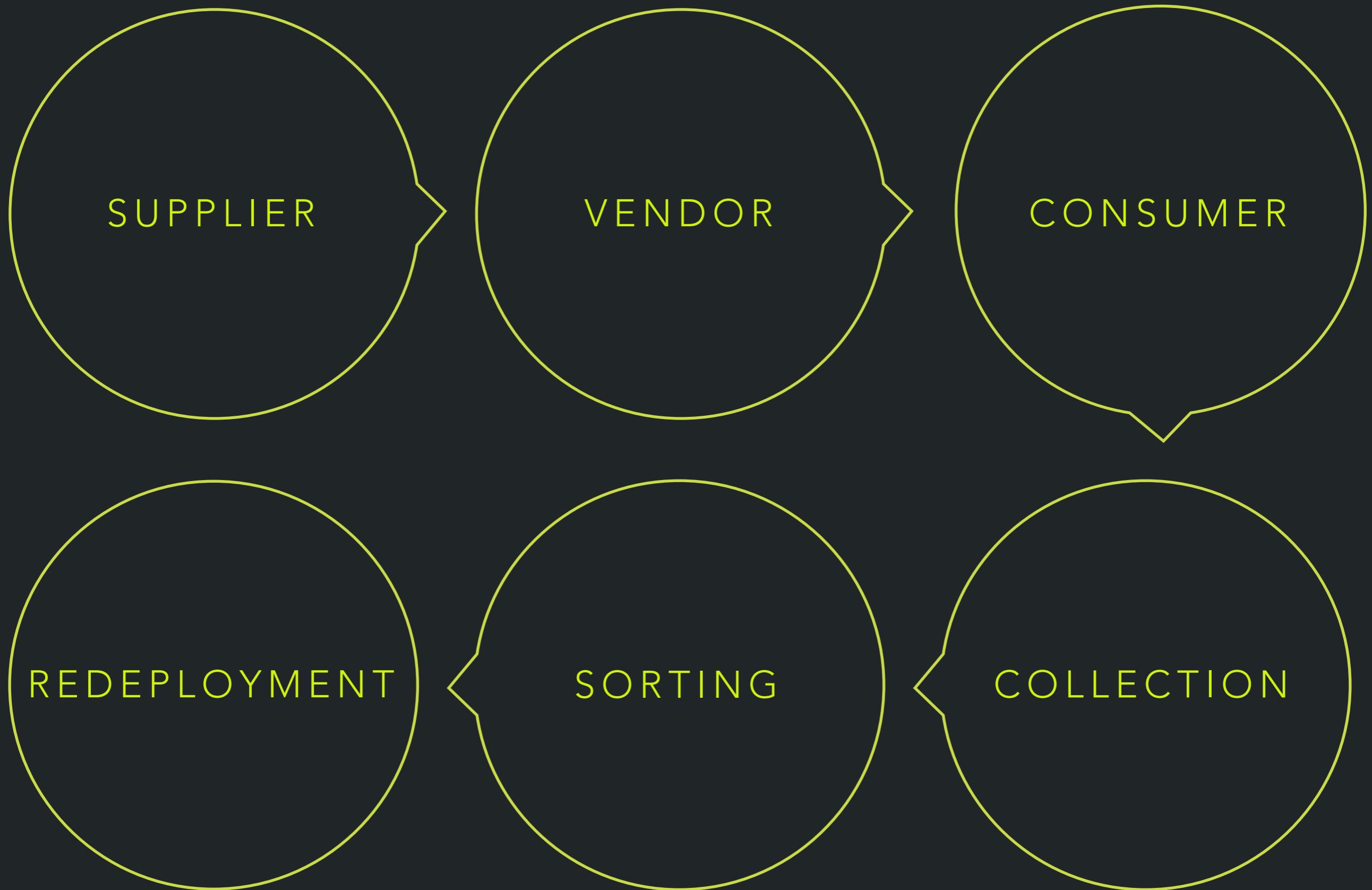
Awareness Initiative

Promotional / Permanent Bins
Accredited Establishments
Advertisements

Question and Answer

To inform, educate and
create awareness for the
purpose of promoting
glass recycling in
Hong Kong.

RESEARCH AND ANALYSIS - JOURNEY OF A GLASS BOTTLE





250 TONS
PER DAY

-GLASS WASTE-



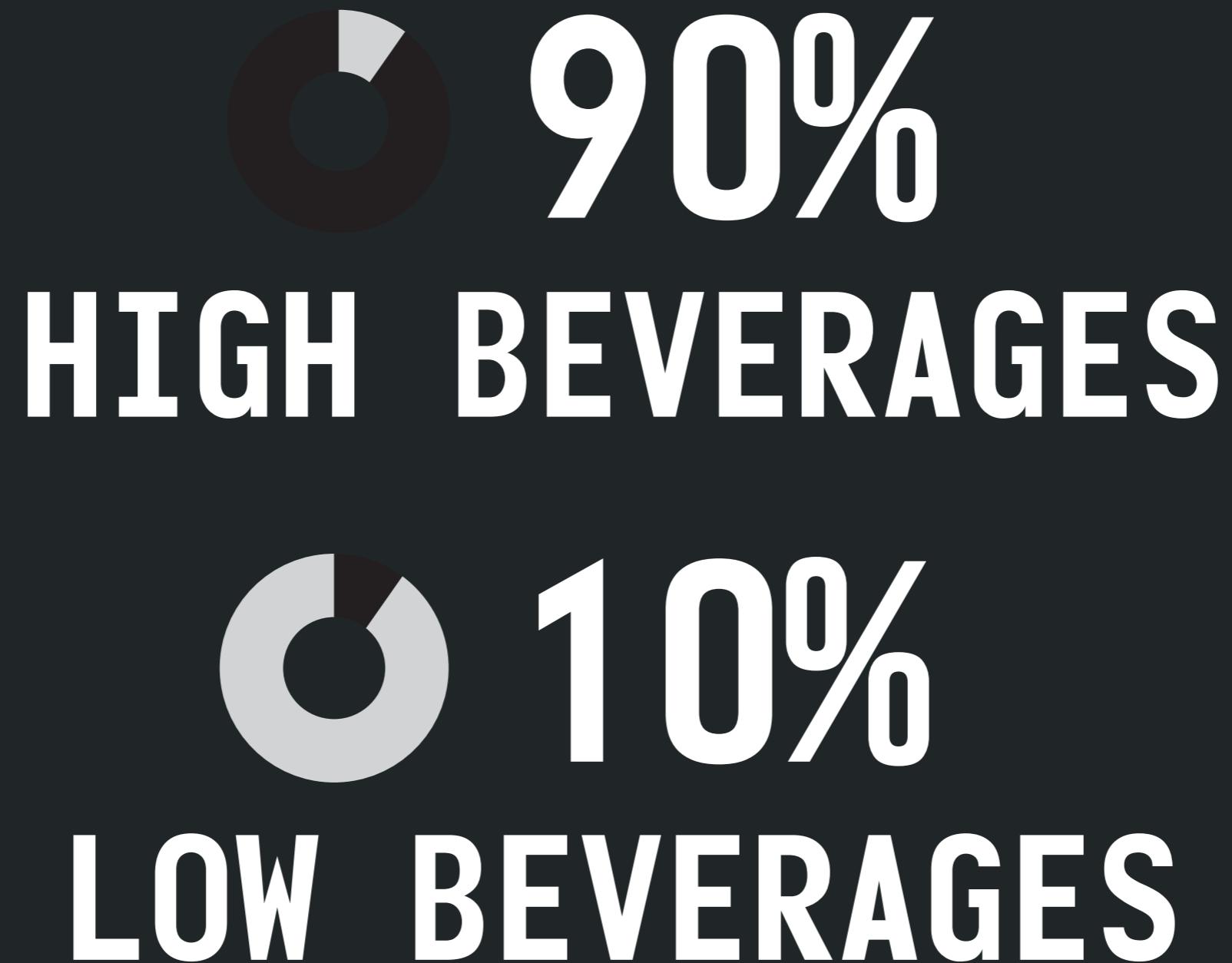
LESS
THAN

50%

8 - 15
TONS

-RECYCLE-

- RECYCLE WITHIN < 5% -



CULTIVATED

TWN JPN
USA DEU

EDUCATED

HK SH
BJ

SGP
MYS

UNCULTIVATED

UNEDUCATED

AWARENESS

UNCULTIVATED

CULTIVATED

UNAWARENESS

HK

SH
MYS

BJ

SGP

TWN JPN
DEU USA

SUPPLIER





CAN
\$1
FIX IT?

- THE HONG KONG GLASS BOTTLE RECYCLE FOCUS GROUP -

Supplier Responsibility

CONCERN

- Willing to pay extra charge or tax
- Recycling glass needs mental power and economical support
- High insurance cost

GOVERNMENT PROPOSED

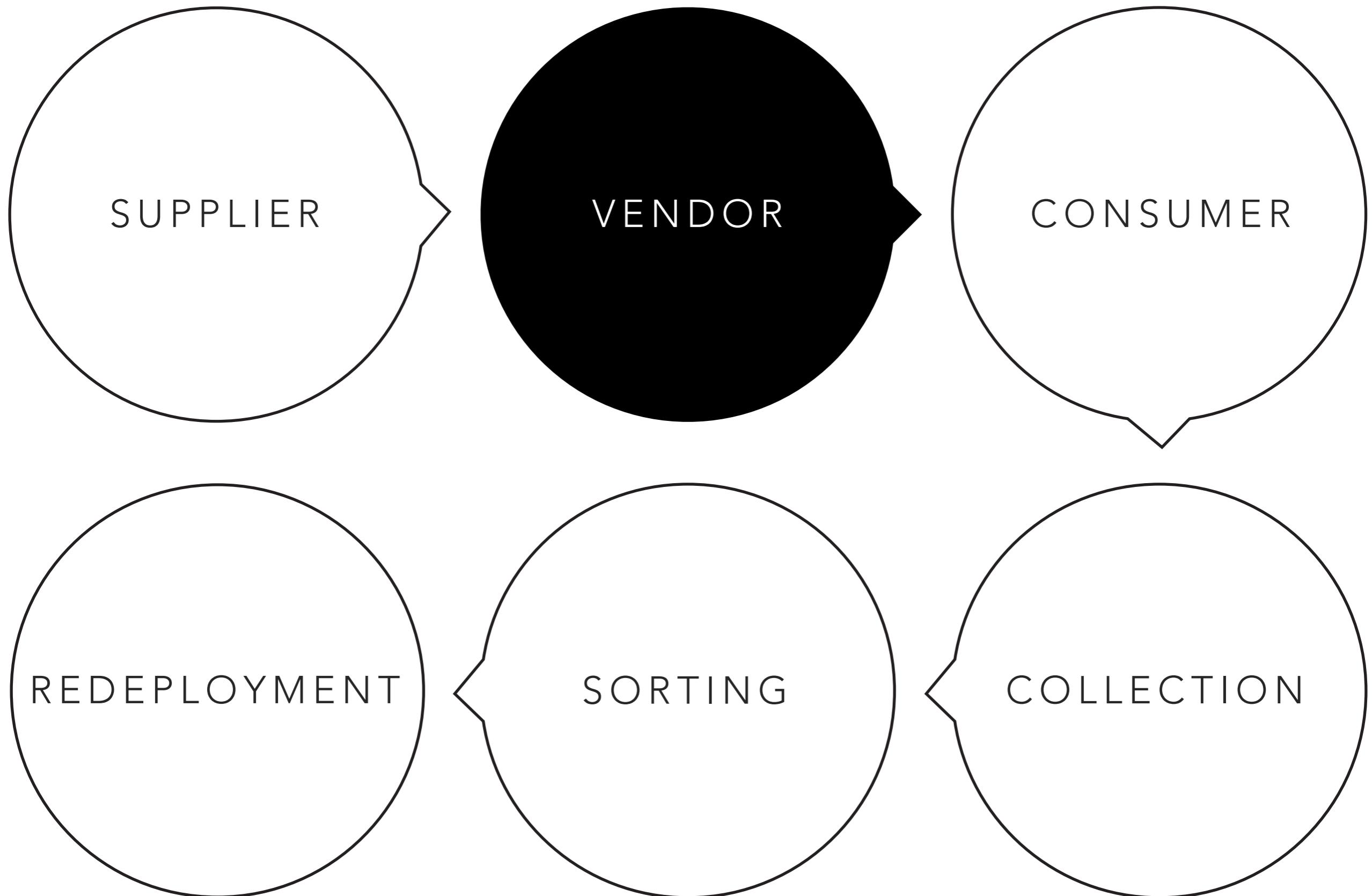
- Tax to be introduced to supplier: \$1/L, \$0.75/0.75L
- Supplier to include recyclability label
- Label to indicate location of glass bottle collection point

SOURCES

<http://hk.apple.nextmedia.com/news/art/20130607/18288337>

http://www.greenglass.org.hk/?page_id=95

SUPPLIER > VENDOR



TIME CONSUMPTION



HIGH BEVERAGES SELLER CONCERN

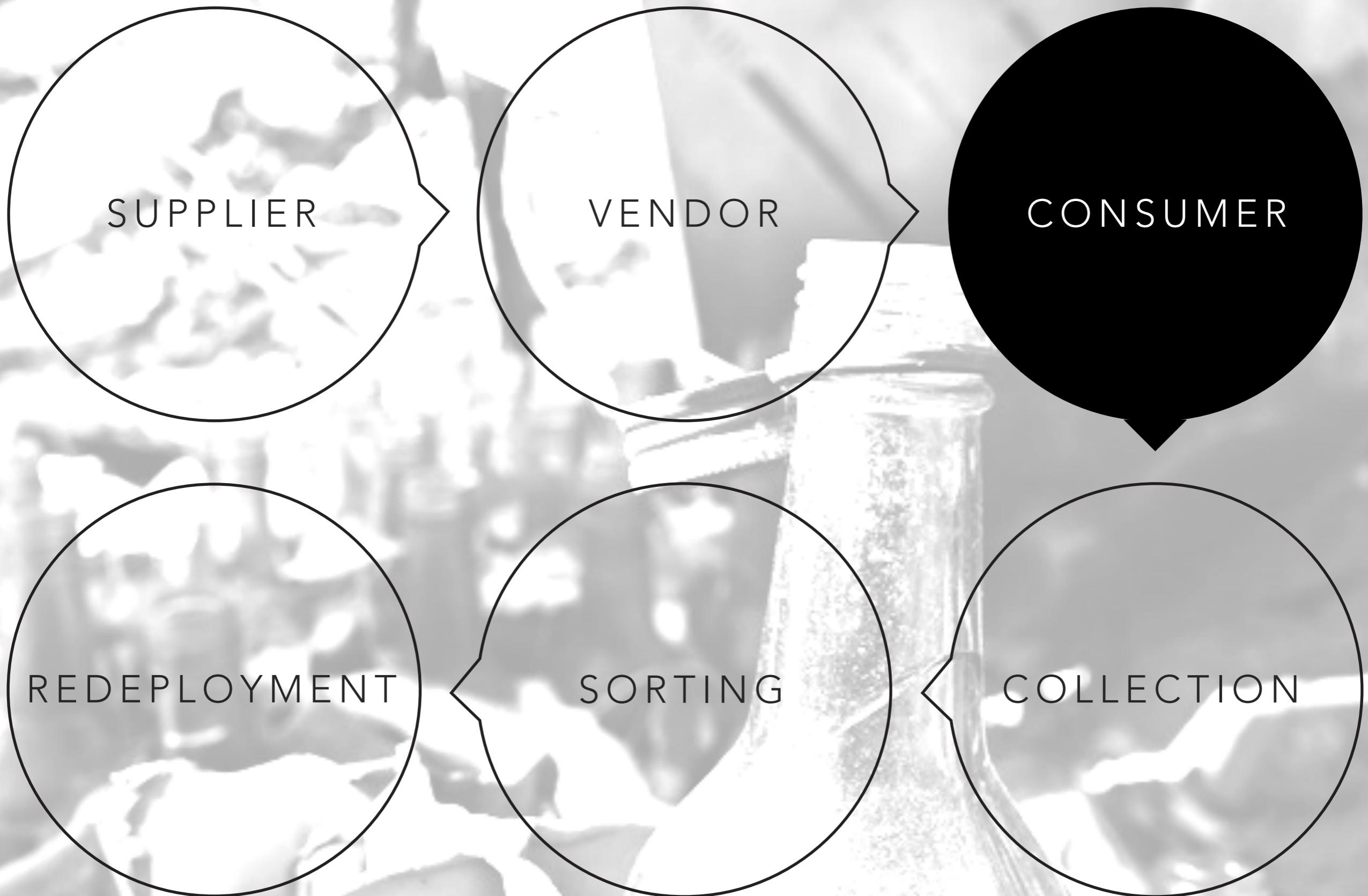
- Wasteful
- After Hours
- Cost of Collection

SOURCES

<http://hk.apple.nextmedia.com/news/art/20130607/18288337>

http://www.greenglass.org.hk/?page_id=95

SUPPLIER > VENDOR > CONSUMER





**TRASH
IS
RESOURCE**

- THE HONG KONG GLASS BOTTLE RECYCLE FOCUS GROUP -

IGNORANCE

SURVEY OF PUBLIC PERCEPTION OF RECYCLED GLASS IN HONG KONG

85%

15%

- Light bulbs
- Glass cookware
- Glass bottles containing toxins
- Cosmetic glass containers
- Mirrors

- Colored glass bottles
- Transparent glass bottles

IGNORANCE

SURVEY OF PUBLIC PERCEPTION OF RECYCLED GLASS IN HONG KONG

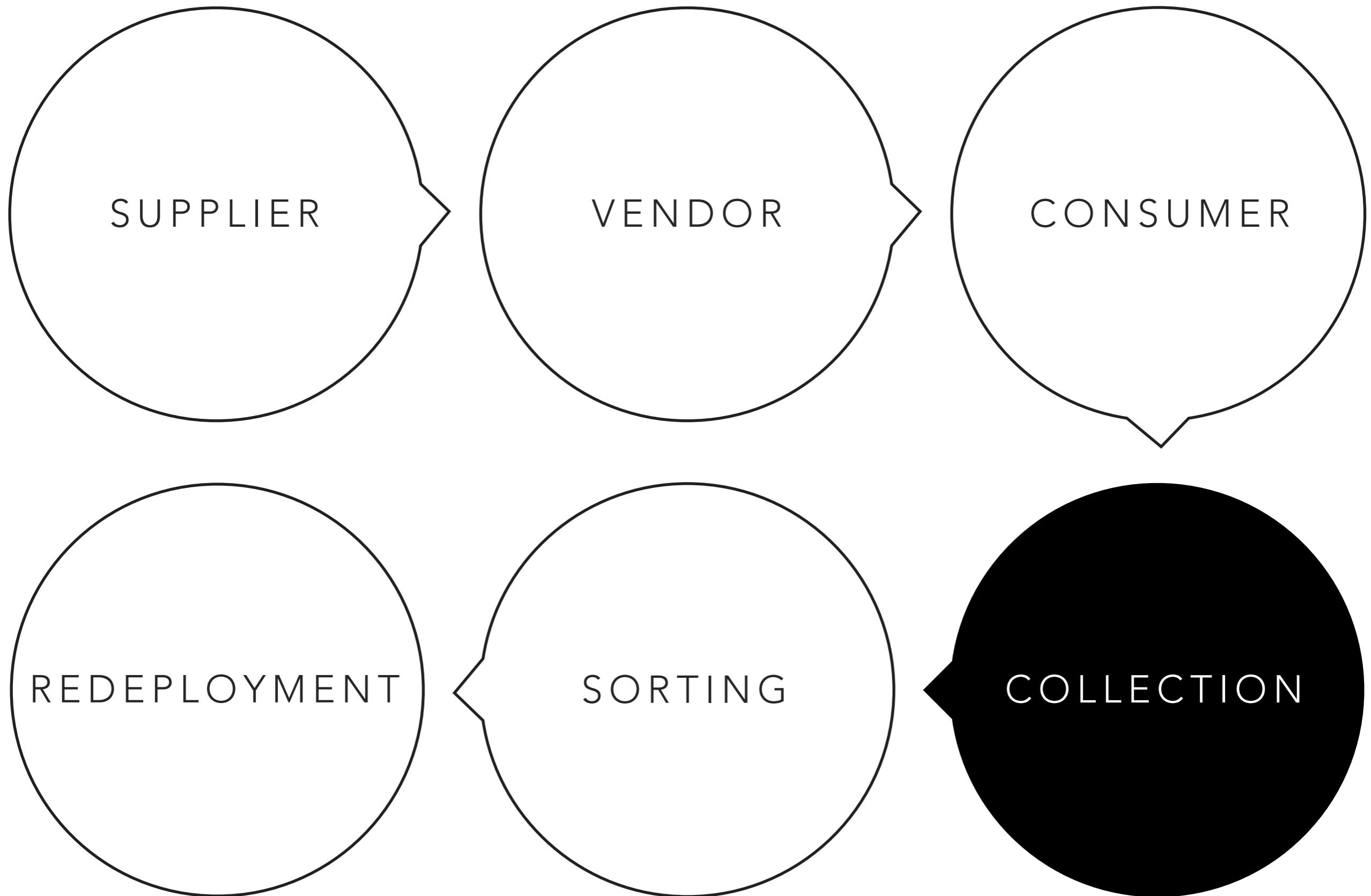
56%

— Never recycled glass before

44%

— Have recycled glass before

SUPPLIER > VENDOR > CONSUMER > COLLECTION



800 RCPs BEFORE 2015



270 collection point
but only <10% (of the 3%
recycle from these bin

<http://paper.wenweipo.com/2013/05/07/PL1305070006.htm>

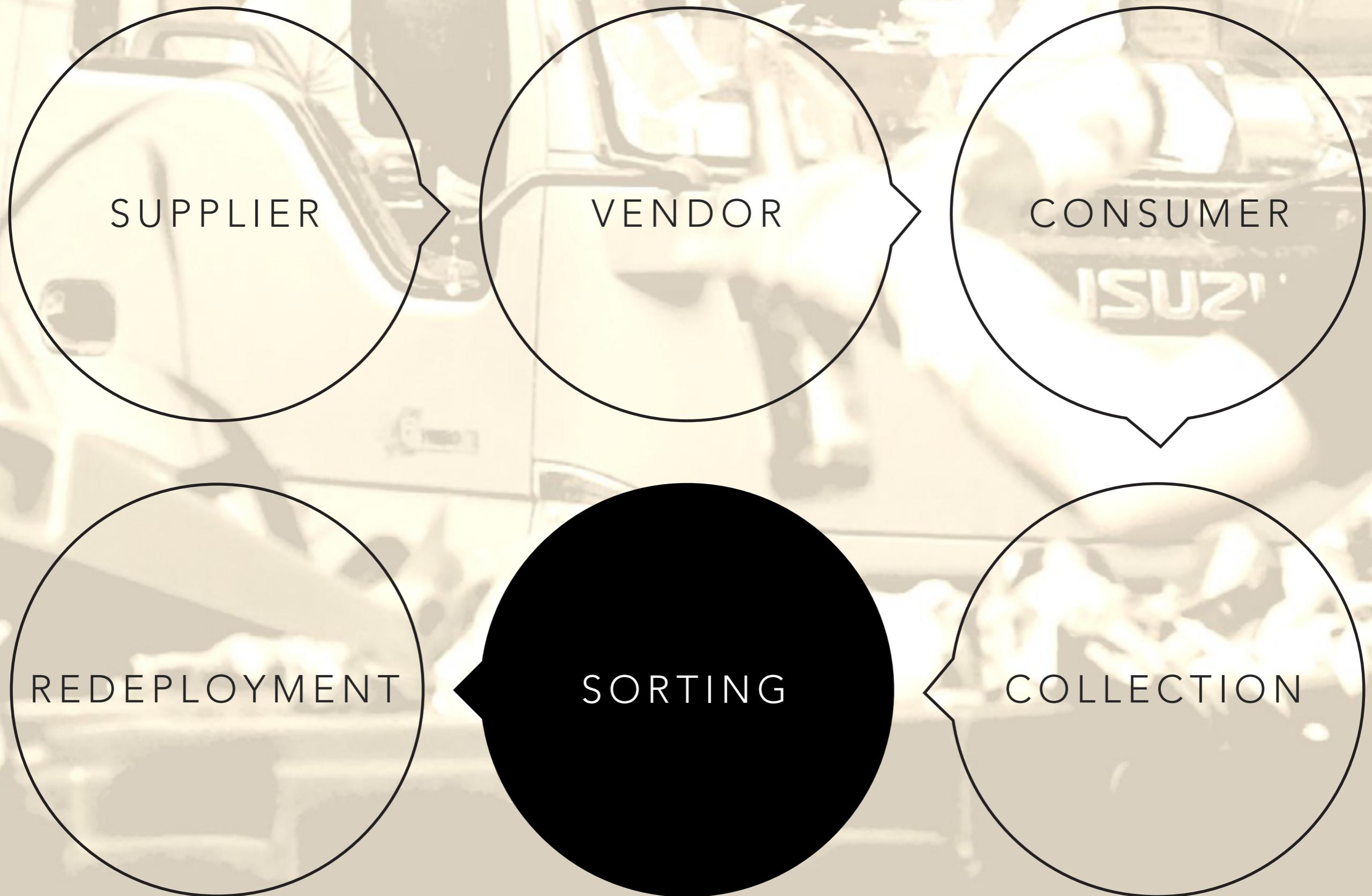
Network serving 50% of
HK population

SOURCES

<http://hk.apple.nextmedia.com/news/art/20130607/18288337>

http://www.greenglass.org.hk/?page_id=95

SUPPLIER > VENDOR > CONSUMER > COLLECTION > SORTING

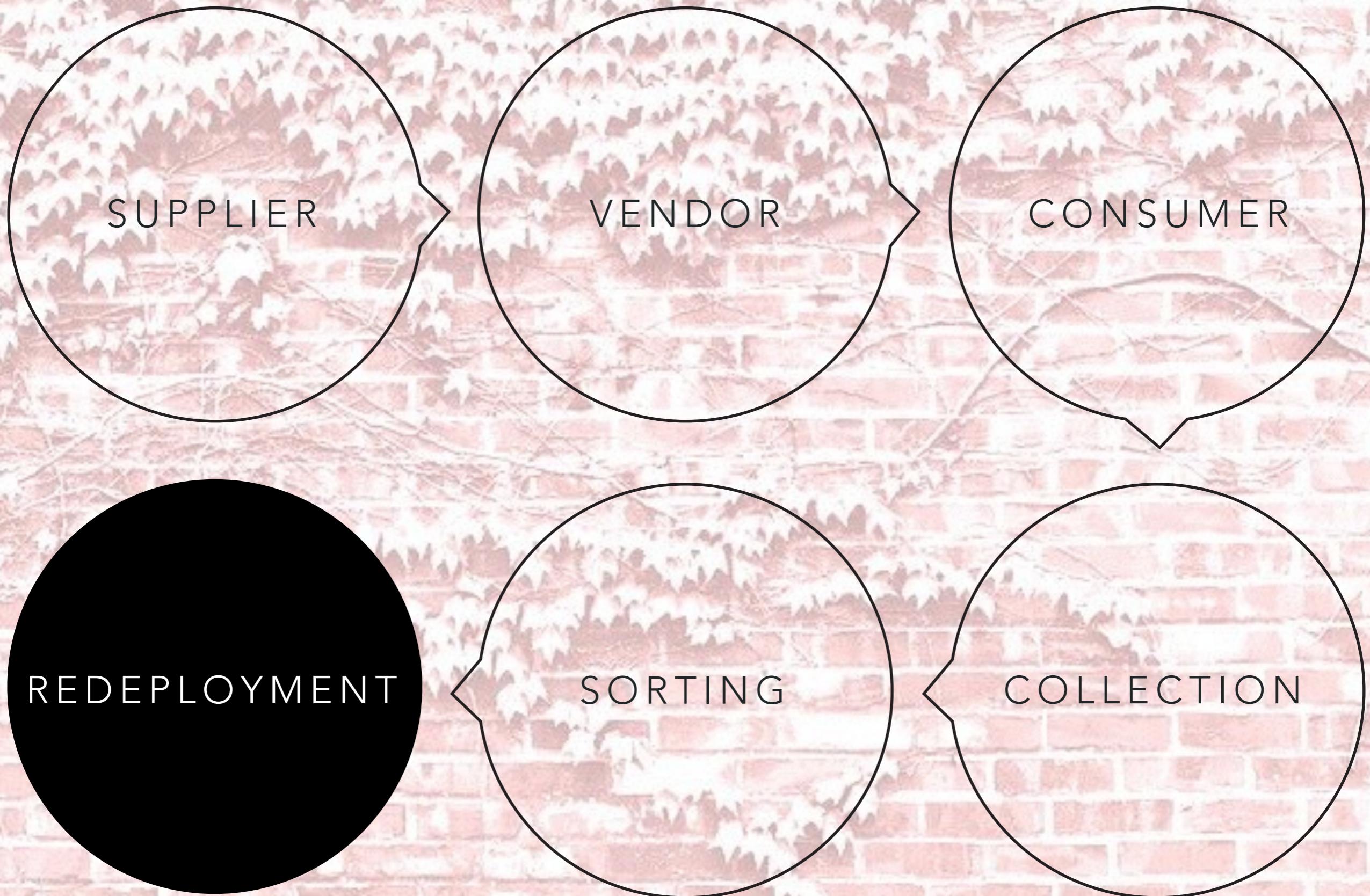


Volunteers' Concerns

Handling hazards

HARMFULNESS	INHALING SMOKE	SAFE	CLEANNESS	ODOURS	HARMLESS
CONTAGION					
PEST ATTACKS		INCLEMENT WEATHER			
ASBESTOS		TRAFFIC ACCIDENTS			
INHALING FUMES		DOG ATTACKS			
MEDICAL WASTE		DIRTY WATER		FALLING OBJECTS	
CAUSTIC CHEMICALS	HAZARDOUS	INHALING DUST		BROKEN GLASS	
		NOISE > 85 DB			

SUPPLIER > VENDOR > CONSUMER > COLLECTION > SORTING > REDEPLOYMENT



-RECYCLED GLASS BRICKS-

MADE FROM
GLASS

- THE HONG KONG GLASS BOTTLE RECYCLE FOCUS GROUP -

SECOND LIFE OF GLASS IN HK

WHY BRICK?

- No Glass Industry In Hong Kong
- Weight Issue
- High Cost of Transportation

SOURCES

<http://hk.apple.nextmedia.com/news/art/20130607/18288337>

http://www.greenglass.org.hk/?page_id=95



COLLECTION



FRAGMENTATION



PULVERISED



PRESS MOLDED



**HIGH BEVERAGES
LOCATION**

JORDAN

FLAT TERRAIN
LOWER CONSUMPTION



HILLY TERRAIN
DIFFICULT TO
TRANSPORT WHEELIE
BINS

**WAN
CHAI**

26 WHEELIE BINS
COLLECTED PER DAY

140 MEMBERS ON FACEBOOK

Michelle Ma

在本港廢物分類中，玻璃是長期被忽視的小角色，每年本港產生的玻璃廢料高達十四萬噸，但因回收再用玻璃的成本高，現時的回收率不足百分之一，大部分被白白埋葬堆填區。

Photo by THE SUN

Words by THE SUN

Edited by Hong Kong Glass Bottle Recycle Focus Group

See Translation



Unlike · Comment · March 5 at 8:03pm

Yee Log

哪裡有玻璃回收點？

1. 玻璃再生璀璨的玻璃回收點 分別提供社區回收點和酒吧區回收點，共30個地點：

http://www.greenglass.org.hk/?page_id=509

2. 現時參與環境保護署(環保署)及香港房屋委員會(房委會) 所推行的玻璃樽回收計劃的公共屋邨：

http://www.epd.gov.hk/epd/tc_chi/environmentinhk/waste/e_co_responsibility/files/List_Public_Housing.pdf

Photo by FPCYorkTown.org

Words by GreenGlass.org.hk

Edited by Hong Kong Glass Bottle Recycle Focus Group



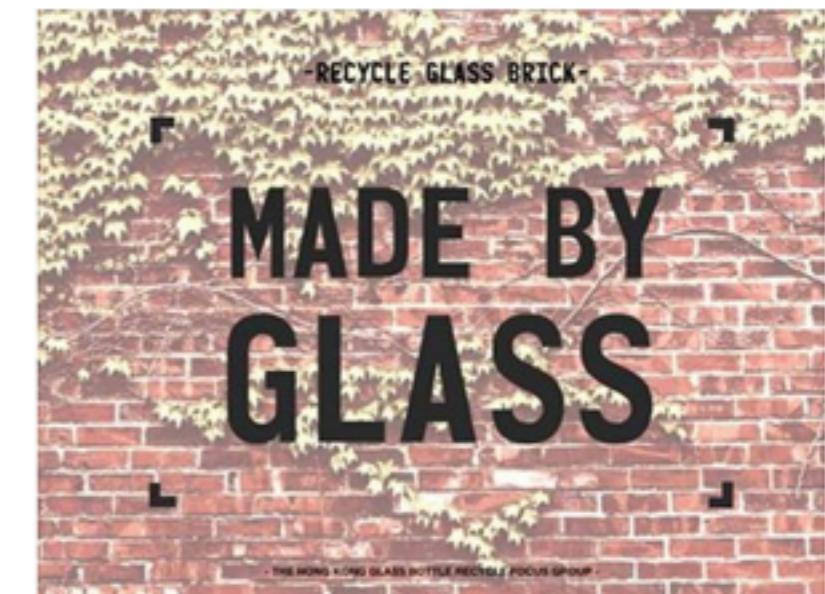
Like · Comment · March 3 at 11:30pm · Edited

Yee Log

玻璃造地磚 廢酒樽變藝術品

玻璃酒樽的價值，並不會隨着美酒喝光了就變為零，因為酒樽可以循環再造，成為有用的資源。好像將玻璃樽磨碎成沙，代替天然河沙，製造環保地磚。本港亦有藝術家發揮創意，將玻璃樽製成精巧擺設和實用器具。玻璃樽的價值其實掌握在大家手中。

See More



Like · Comment · March 5 at 8:02pm

FACEBOOK LINK

<http://hk.apple.nextmedia.com/news/art/20130607/18288337>

Behavioral Analysis

- Observation
- Primary Research
- Key Findings

Employee Behavior



- █ Dinnerware, Tableware
- █ Food / Compost
- █ Beverage Containers
- █ Paper

Employee Behavior



- Despite specific color classification, workers often disregard separating.
- Speed and convenience outweigh recycling concerns
- No incentive to recycle

80% Glass



no glass collection bins

Self-Initiative



mutual collection point

Consumer Behavior



consumer awareness

On-Site Behavior

LOCATION PIN

Glass Bin

REDIRECT STICK

Public Rubbish Bin

REDIRECT STICK

7-11 Rubbish Bin

Video Observation

Key Findings

- People will make extra effort if recycle bins are clearly marked
- If insufficiently marked, then easily overlooked
- Reflex Action / Deliberate Reaction
- Equal participation among locals and expats

Awareness Initiative

- Promotional / Permanent Bins
- Accredited Restaurants / Establishments
- Advertisements



OWN THIS COLOR

This color will become synonymous
with glass recycling.



Promotional version



Pop-up Tag
(Animation)



Spring-back Lids
(IR sensors)

Inner Bin
(Replaceable; Safe;
Easy transportation)

Bottle Crusher

Filter

Lock

Promotional version



Strategic location

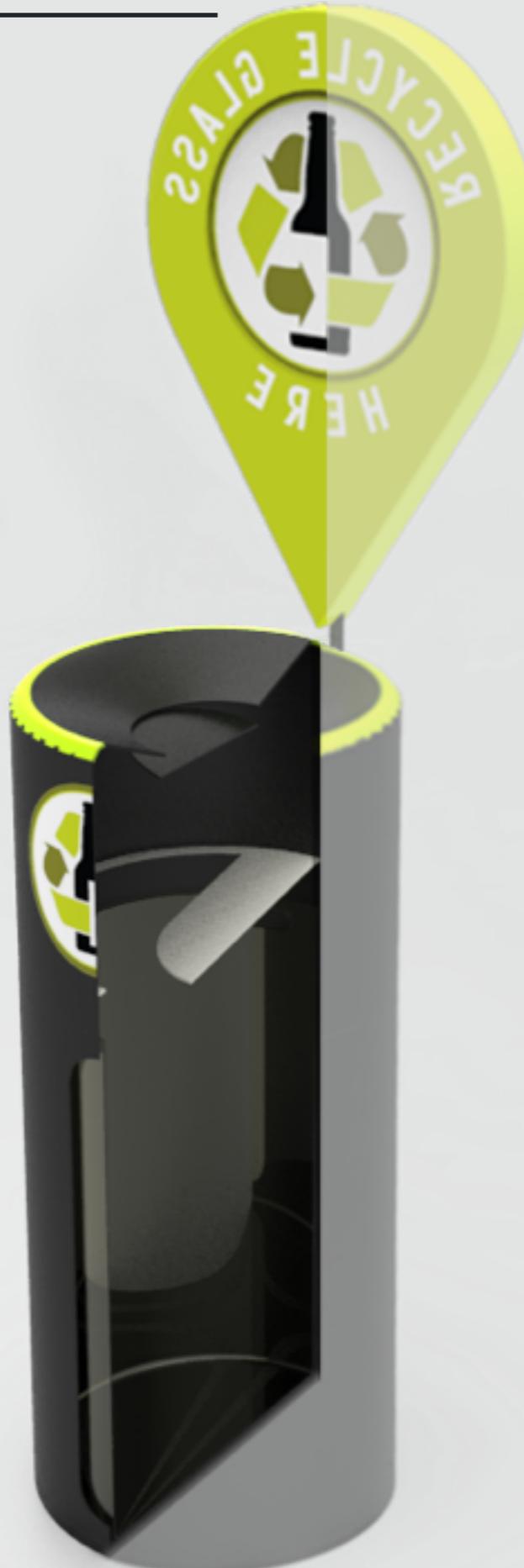




EPIC



Permanent version



Dimension

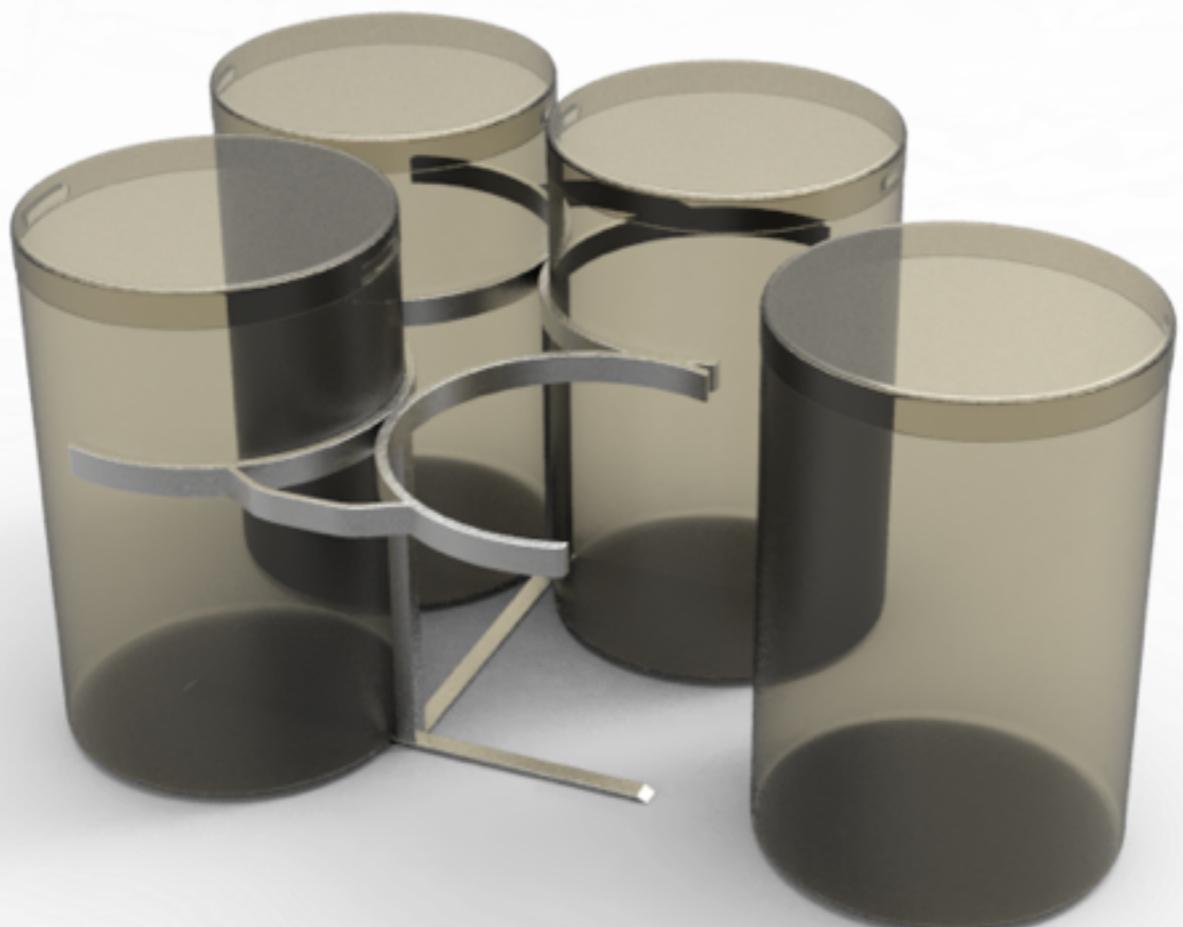
Bin: 50cm*50cm*112cm

Tag: 175cm

Expected Life Span

>5 years

Mass transportation harness



Materials



HOMO POLYPROPYLENE

- Tough & Flexible
- Impact Resistant
- Abrasion Resistant
- Cheap

HIGH DENSITY POLYETHYLENE

- Tough & Rigid
- UV & Weather Resistant
- Impact Resistant
- Multicolored & Opaque

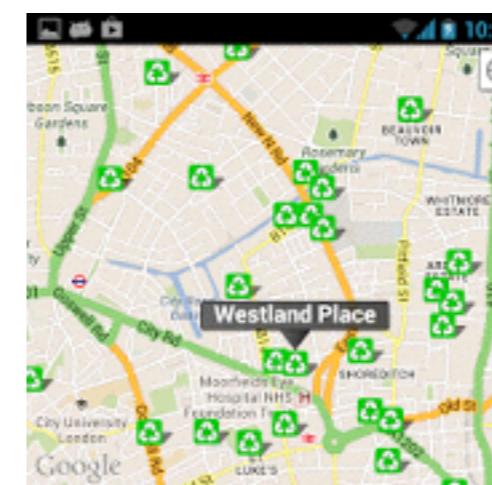
POWDER-COATED GALVANIZED STEEL SHELL

- Weather Resistant
- Decorative Surface Finish
- Tough & Rigid

Smart bins + application



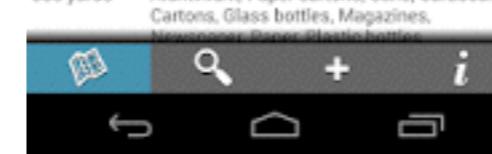
- Solar-powered
- Wireless monitoring system
- Track people, privacy breach
- Find and locate recycling bin



Old Street
266 yards Old Street

Westland Place
335 yards Cans, Cardboard, Glass, Paper
Westland Place

Great Eastern Street
355 yards Aluminium, Paper cartons, Cans, Cardboard,
Cartons, Glass bottles, Magazines,
Household glass, Plastic bottles





GLASS RECYCLING ACCREDITATION CAMPAIGN

A decal promoting your social responsibility on the door of your restaurant, office building or apartment complex can go a long way in the minds of the customer, resident and/or potential tenant





Glass Recycling Bag (FF18)

£2.50

Strong Recycling Bag for Glass.

Nice size for collecting and putting in the car to take to your recycling centre.

Dimensions: 32 X 32 X 46 CM

SALE WERE £2.99, ORIGINALLY £3.99 EACH

Find Related Products In:

- [Home and Garden > Reusable Bags](#)
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BARS & RESTAURANTS

NOISE POLUTION





THAT LOUD CLACKING
IS THE SOUND OF
RESPONSIBILITY.
DO YOUR PART.



INFINITUS PLAZA 無限極廣場



WHEN THERE IS A FIRE
DO NOT USE THE LIFT
如遇火警
切勿使用升降機

6



PLEASE DEPOSIT
GLASS ON
GROUND FLOOR.
DO YOUR PART.



ONLY 2% OF GLASS GETS RECYCLED IN HONG KONG. DO YOUR PART.



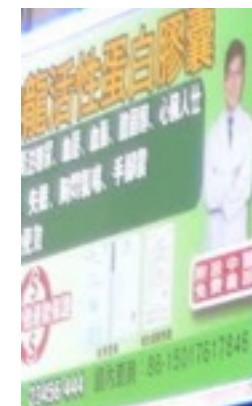
**“EVERY NEW BEGINNING
COMES FROM SOME
OTHER BEGINNING’S END”**



DO
YOUR
PART.



DO YOUR PART.



元寶義診

**貴君請行多一步
棄置玻璃少一處**

“玻璃回收，我愛我港”

大手小手齊動手

大樽小樽易回收

“玻璃回收，手到樽來”

迎君璀璨而來

送君深情而去

“玻璃回收，我愛我港”

對酒當歌

酒瓶而何

“玻璃回收，由我來創”

現在您這一投

看似平淡無奇

而未來，

卻璀璨繽紛

“玻璃回收，由我來創”

**想要分手的時候
絕不要輕易放手
當放該放的地方**

“玻璃回收，我愛我港”