CAMPUS SORTING GUIDE

— because careful sorting matters —

NUS National University of Singapore | University Campus Infrastructure

Developed by Sustainability Strategy Unit

University Campus Infrastructure, National University of Singapore

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1. AIM

The aim of this Campus Sorting Guide is to provide the NUS community with regularly updated information on campus recycling. It provides instructive information on:

1. NUS' decision to adopt a segregated mode of recycling instead of the commingled (or mixed) mode
2. Types of segregated waste streams collected in NUS that are sent for recycling
3. Where the recyclable materials are sent to for closed loop recycling to minimise environmental and social impacts
4. Common FAQs on campus recycling

1.1 NUS practises segregated recycling collection

NUS adopts a segregated collection system on campus instead of the commingled (or mixed) recycling system to maximise recycling tonnage. This is because a commingled collection system often has high contamination rates[1] making the recycling process difficult and impractical and lowers the chances for our recyclables to be accepted for recycling.

In NUS, the *Recycle Right*[2] bins are placed across the campus to guide NUS staff and students to sort waste and recyclables carefully. A 2022 study conducted by NUS showed that the recycling contamination rate of the plastic PET♺ bottle recycling bins dropped from 60% to 27% with the introduction of the *Recycle Right* bins. A follow-up sample count by Ridge View Residential College students in 2025 revealed that the contamination rate in our *Recycle Right* bins remains low for plastics PET♺ bottles (22%), Cans (9%) and paper/cardboard (4%).

[1] https://www.channelnewsasia.com/commentary/singapore-recycling-blue-bin-fines-incentives-contamination-rubbish-4453731

[2] https://mothership.sg/2020/09/nus-recycle-right-bin/

Recycle Right bins on campus are colour coded by streams for easy identification. From Left to right: General waste (grey), PET plastic bottles (light green), HDPE plastic containers (dark green), Cans (yellow), Notes & Cardboard (blue), Glass (orange)

In back-of-house operations, our cleaners and operators in food and beverage establishments are trained to segregate recyclables like cardboard and food waste. Sorting recyclables in clean and homogenous streams minimises contamination and maximises recycling tonnage.

This is unlike the public commingled recycling collection[3] system for the national household recycling programme with distinctive blue bins, with high contamination rate of 40%[4] and a low domestic recycling rate[5]. Contaminated recyclables are not accepted for recycling by local recycling vendors and are instead sent for incineration and the resultant incinerated ash sent for landfilling in Semakau Landfill.

Segregating clean and homogenous recycling streams is an essential first step to ensure that the recyclables get sent for recycling and that the collective recycling efforts are not wasted. Through day-to-day routines, we strive for a sorting culture in the NUS community.

1.2 Sorting for segregated recycling

Collecting recyclables in clean and homogenous streams allows closed loop recycling, towards circularity (processing to a new product with recycled content without

[3] https://www.nea.gov.sg/our-services/waste-management/3r-programmes-and-resources/national-recycling-programme
[4] https://www.cgs.gov.sg/recycleright/know-your-contaminants/
[5] https://www.straitstimes.com/singapore/domestic-recycling-rate-stalls-at-12-despite-decline-in-household-waste

compromising material properties) which minimises waste generation and pollution to the environment.

NUS collects the following key recycling streams that are frequently generated by NUS community through day-to-day disposal needs and back-of-house operations. To ensure that our recyclables are processed, only materials that are clean and homogenous with downstream demand by the recycling industry partners are collected.

Types of Waste Streams Collected & Not Collected for Recycling on NUS campus

1.3 Responsible end-of-life management of plastic and food waste recycling streams

Going beyond campus grounds, NUS takes the extra step to ensure our recyclables are managed responsibly by established recycling contractors to minimise downstream negative environmental and social impact of their recycling operations.

Plastic materials (PET♺ and HDPE♺) collected for recycling consists of 5%[6] of total campus waste. Due to the initial difficulty in tracing where recyclables are sent to beyond Singapore, student representatives from the NUS Zero Waste Taskforce placed

[6] Based on waste composition studies conducted between 2022 and 2024 at student residences, canteens and administrative buildings.

trackers in plastic bottles (PET♳ and HDPE♳) on Kent Ridge campus. They discovered that the plastic bottles were transported to an industrial area in Malacca, Malaysia. The Taskforce assessed that the bottles were likely processed in facilities with basic environmental controls. To improve the downstream management of PET♳ recyclables, the Taskforce diverted our PET♳ bottles to Hiroyuki Industries, an established recycling contractor, to be processed as rPET♳ resins, after visiting Hiroyuki's processing facilities in Johor Bahru, Malaysia to verify how PET♳ bottles go through a rigorous multi-step processing line (with certification such as Global Recycled Standard) to clean, sort, shred to make food grade rPET♳ resins to become new drink bottles again.

For other plastic types (HDPE♳, LDPE♳ & PP♳), we will be collaborating with industry and academic partners to test bituminous plastic mix for road paving on campus while ensuring the materials' structural integrity, safety and environmental performance.

Trackers placed in plastic bottles on campus travelled beyond Singapore and ended up in Malaysia

Food waste collected from canteens, food courts and dining halls on campus is another key waste stream, consisting about 29%[6] of total campus waste. Food waste collected on campus is transported to three onsite aerobic digestors to be turned into compost for campus landscaping. Towards closing the food waste loop, we are working with Life Lab Resources to convert food waste into high calorific substrate through a food waste valorisation system that can be processed to make aquaculture feed.

2 COMMON WASTE STREAMS COLLECTED ON CAMPUS FOR RECYCLING

👉 Click to find out more about each stream and how it is recycled or reused

BACK: CONTENTS

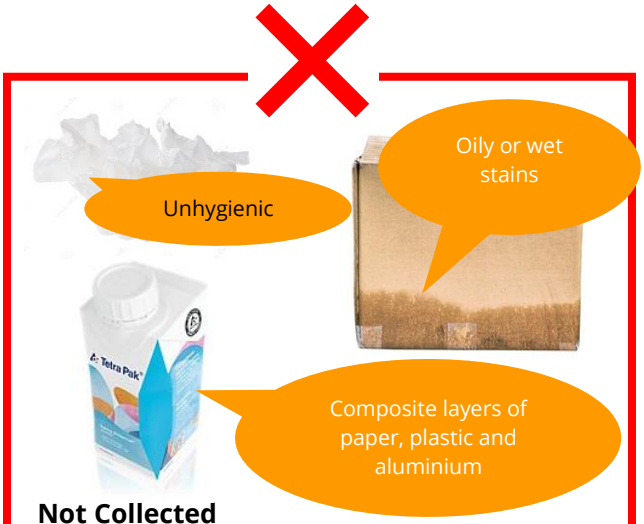
NEXT: RSS IN HOSTELS

2.1 PAPER

Collected

✅ Clean and dry cardboard boxes, printed documents, books, magazines and newspapers.

These items are accepted for recycling in established paper mills. The plant fibers in the paper/cardboard—mainly cellulose— are broken down into pulp to be reformed into new paper products.



Not Collected

❌ Soiled or wet paper, tissues, greasy cardboard, composite items like used beverage cartons, or receipts printed on thermal paper, are not accepted.

Why not?

Oil, food residues and chemicals can disrupt the paper mill pulping process. Although items like Tetra Pak are technically recyclable, the low volume on campus make collection impractical. **See FAQs for more info on why Tetra Pak is not accepted for recycling.**

IF IN DOUBT THROW AWAY

How is this waste stream collected and recycled?

1. Collected at **Recycle Right bins** before consolidation at nearest bin centres for pick up by recycling vendor, Orange Enviro.

2. Transported to **Asia Recycling Resources** facility for further consolidation and baling before exporting

3. Recycled at **Muda Paper Mills** (Malaysia) to be processed into recycled paper products such as carton boxes, wrappers and paper bags.

2.2 PLASTIC – PET♺

Polyethylene Terephthalate

Empty and rinse first to keep pest-free

Collected

✅ Empty rinsed beverage bottles with an imprinted PET♺ label. Typically, in 500ml or 1.5 litre size.

Why only bottles?

Consistent material properties required to maintain the high-quality standards to produce food-grade rPET♺ bottles, closing the waste loop.

Not all PET ♺ materials are the same. Fruit packaging with PET label is not collected on campus due to differences in material quality.

Not Collected

❌ All other plastic items, including other types packaging with PET♺ labels are not accepted. **See FAQs for more info on why other types of plastics are not accepted for recycling.**

IF IN DOUBT THROW AWAY

How is this waste stream collected and recycled?

1. Collected at **Recycle Right bins** before consolidation at nearest bin centres for pick up by recycling vendor.

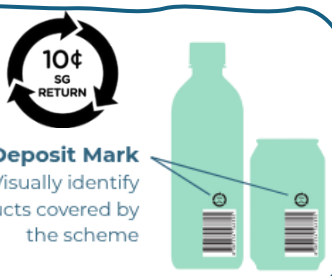
2. Transported to Cora Environment facility for consolidation and baling before exporting to Malaysia.

3. Sent to Hiroyuki Industries (Johor Bahru, Malaysia) for shredding, cleaning, melting, extruding, testing, to turn PET♺ bottles into food grade rPET♺ resins.
4. The rPET♺ resins are sent to other **manufacturers** to make new beverage bottles.

Check for Deposit Mark!

From 1 April 2026, you can return plastic bottles and cans with the deposit mark at the nearest RVM.

Refer to FAQ to locate RVMs on or near campus.



Deposit Mark
Visually identify products covered by the scheme

2.3 PLASTIC – HDPE♳

High-Density Polyethylene

Collected

✅ Empty rinsed packaging with HDPE♳ label, such as shampoo bottles, soap, and detergent containers.

Consistent plastic type ensures uniform material properties for processing into bituminous mix for road paving.

Not Collected

❌ All other plastic items without an HDPE♳ label, and cosmetic containers with glass or mixed-material lids.

⚠️ Glass bottles should be placed in the glass recycling bin, while metallic-looking caps—usually mixed plastics—should go in the waste bin.

IF IN DOUBT THROW AWAY

How is this waste stream collected and recycled?

1. Collected at **Recycle Right bins or** Resource Sorting Stations (hostels) before consolidation at bin centres for pick up by recycling vendor.

2. Sent to Magorium facility in Singapore to be shredded and processed into bituminous mix for road works.

3. Sent back to **campus** for scheduled road paving works.

WHAT ABOUT OTHER PLASTIC TYPES?

Only clean lab packaging and consumables—such as pipette containers and bubble wrap—made from **LDPE♳ (Low-Density Polyethylene)** or **PP♳ (Polypropylene)** are collected for recycling on campus. LDPE♳ and PP♳ from other sources are not collected because they are often contaminated with food waste and have low market value. **See FAQs for more info on why other types of plastics are not accepted for recycling.**

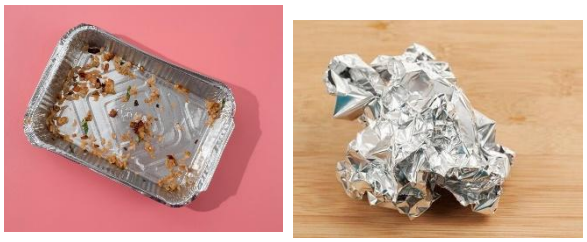
2.4 METAL

Empty and rinse first to keep pest-free

Collected

✅ Empty rinsed aluminium drink cans and tin drink or food cans.

Homogenous metal type to ensure consistency and purity for processing into ingots for manufacturing.



Not Collected

❌ Used aluminium food tray and foil that have been contaminated by food waste.

IF IN DOUBT THROW AWAY

How is this waste stream collected and recycled?

1. Collected at **Recycle Right bins** before consolidation at bin centres for pick up by recycling vendor.

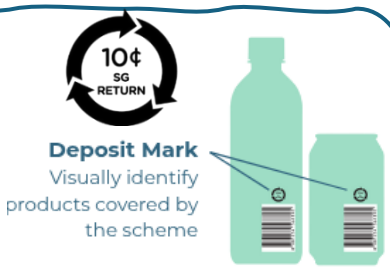
2. Transported to Asia Recycling Resources facility for sorting to aluminium and tins, and further consolidation before baling for exporting overseas.

3. Exported to **countries such as Korea** to be melted and cast as ingots before being sold to manufacturers for automotive production, beverage cans, or construction materials.

Check for Deposit Mark!

From 1 April 2026, you can return plastic bottles and cans with the deposit mark at the nearest RVM.

Refer to FAQ to locate RVMs on or near campus.



2.5 GLASS

Collected

✅ Empty rinsed glass bottles or containers used for food or cosmetics packaging, with all lids and caps removed.

Not Collected

❌ Pyrex or borosilicate glass, such as kitchen/ovenware or laboratory glass. These glasses contain additives for high heat resistance and have higher melting points, making them incompatible with standard glass recycling processes that require consistent material properties.

⚠️ Metal lids and caps should be placed in the Metal Cans bin instead.

IF IN DOUBT THROW AWAY

How is this waste stream collected and recycled?

1. Collected at **Recycle Right bins** before consolidation at bin centres for pick up by recycling vendor.
2. Transported to **P&R Resource Management** facility in Singapore for consolidation before overseas export.
3. Exported to **Johor Bahru plant** to be crushed and melted in furnace to produce new glass items.

2.6 TEXTILE

For reuse

Collected

✅ Clean dry used clothes, towels or bedsheets without tears or stains.

See here for full list of textile items accepted by Cloop for reuse.

Not Collected

❌ Dirty or torn textile. Items such as floor mat, laundry basket, duvet, pillow, luggage are not accepted.

💡 If used items are in good condition, consider to gift or resell on **uNivUS Marketplace** or other reuse platforms.

IF IN DOUBT THROW AWAY

How is this waste stream collected and processed?

1. Collected at **Cloop Bin** along UTR walkway at UTown

2. Sent to **Life Line Clothing** facility (Malaysia) to be further sorted into reuse categories e.g. resale or donation, locally or overseas

LARGE AMOUNTS OF TEXTILE WASTE IS GENERATED AT HOSTEL CHECKOUT:

1. Collected at **metal cages** placed at each hostel during check-out period

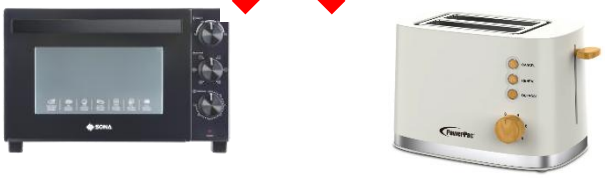
2. Sent to **SNI Trading facility** in Singapore to be further sorted into reuse categories e.g. resale or donation, locally or overseas

2.7 E-WASTE

Collected

✅ **Regulated e-waste** which includes Laptop, Desktop PC, Mouse & Keyboard, household battery, lithium-ion battery. See here for full list of e-waste items accepted by Alba.

Under NEA Extended Producer Responsibility (EPR) Scheme, specific e-waste types are collected for proper end-of-life treatment by ALBA E-Waste Smart Recycling Pte Ltd.



Not Collected

❌ **Non-regulated e-waste**, including household appliances such as microwaves, toasters, and cleaning robots. Refer to NEA e-waste page for locations of bins outside campus that accept household appliances.

⚠️ All e-waste must be properly disposed to prevent fire hazards in waste or recycling bins

💡 If used items are in good condition, consider to gift or resell on **uNivUS Marketplace** or other reuse platforms.

IF IN DOUBT, CHECK WITH US

How is this waste stream collected and recycled?

1. Collected at **ALBA E-waste Bin** located at:

- FoS, outside LT27
- Central Library Forum
- UTown, along UTR walkway
- CDE Blk E4, outside LT6

For **NUS staff** departments only: Collected through **ALBA STEP-UP app**

2. Sent to **ALBA E-Waste Sorting & Logistic Hub** in Singapore to be sorted into categories before redistribution to other local facilities for further sorting and processing.

3. At local facilities like EWR2 in Tuas, electronic devices are dismantled to recover precious metals and non-renewable minerals like lithium, commonly found in batteries. Before processing, hard disks and memory devices are crushed using heat and friction to permanently destroy stored data.

Learn more about e-waste recycling process in Singapore – Watch this video by *The Straits Times*

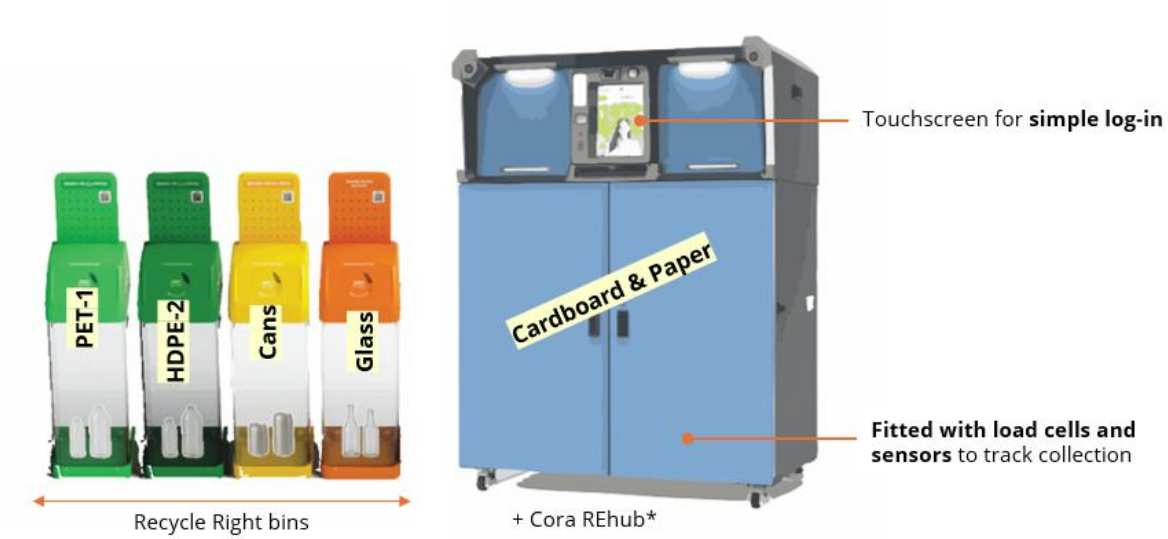
3 RESOURCE SORTING STATIONS (RSS) IN HOSTELS

3.1 About Resource Sorting Station (RSS) Setup:

RSS is a central point for hostelites to sort commonly generated recyclables in segregated streams. The segregated collection is to guide careful sorting and minimise contamination typically observed in mixed recycling chutes and commingled blue bins - an essential first step to ensure that our recyclables are accepted for recycling and to prevent collective recycling efforts from being wasted.

Each RSS is designed to collect five key recyclables: PET-1 bottle, HDPE-2 container, metal can, glass container and cardboard/paper, in separate bins. As cardboard packaging from e-commerce deliveries is commonly generated in hostels, RSS have larger capacity for cardboard/paper collection for residents to deposit unwanted cardboard packaging while on the way to or from their rooms.

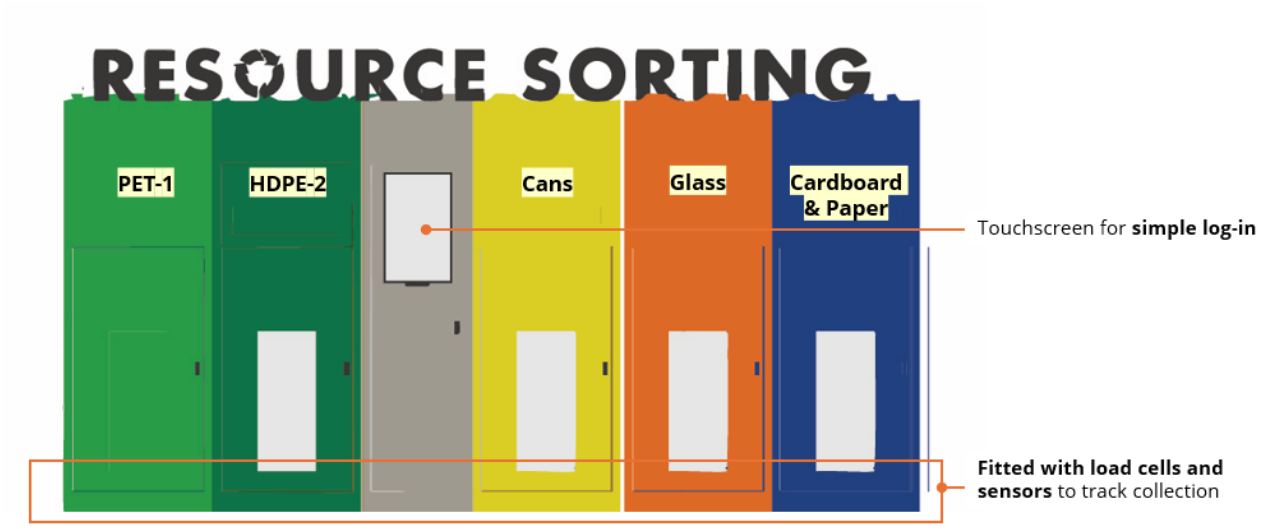
There are three setups across the campus hostels, see below for details on where to find your nearest RSS.



RSS Setup 1 * *supported by Cora Environment*

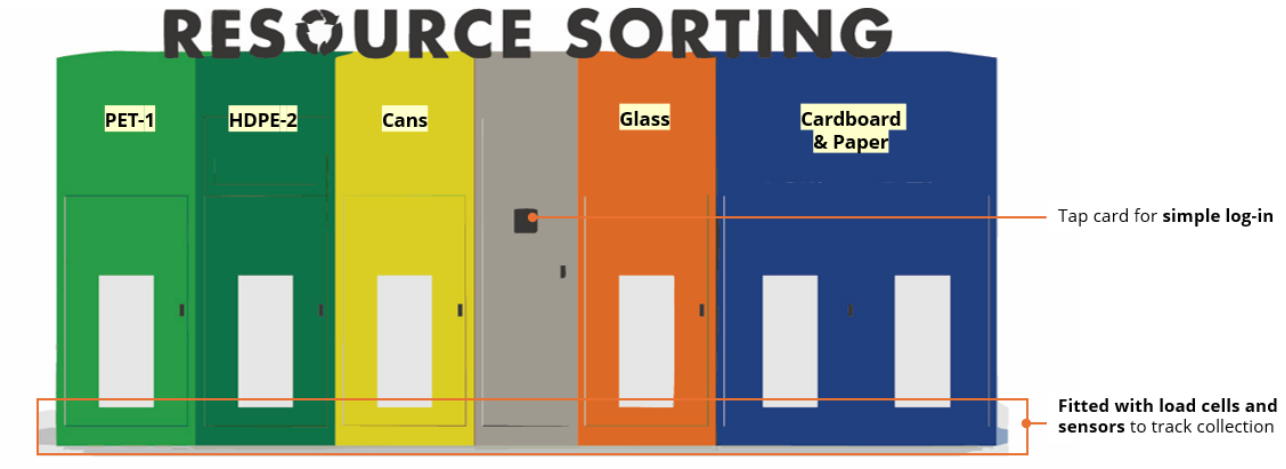
Hostel	RSS location in hostel	Google map pin
Kent Ridge Hall	Outside dining hall	Link
Sheares Hall	Behind honours wall	Link
Raffles Hall	Outside gym, Level 1 (pending confirmation)	Link
Eusoff Hall	Bus stop near hall entrance	Link
Temasek Hall	Bus stop near hall entrance	Link
King Edward VII Hall	Inside dining hall	Link
Ridge View Residential College	Blk G, Level 2, near lift lobby	Link
NUS College (Cendana)	Near parcel collection point on level 1	Link
NUS College (Saga & Elm)	Near side gate at Saga Blk A on level 1	Link

Residential College 4	Level 1, next to MPSH	Link
The College of Alice & Peter Tan	Level 1, near college entrance	Link
Acacia College	Level 1, near drop off point	Link



RSS Setup 2

Hostel	RSS location in hostel	Google map pin
UTown Residence	Level 2, near drop off point	Link
Prince Georges Park Residence	Near SuperSnacks	Link



RSS Setup 3

Hostel	RSS location in hostel	Google map pin
Valour House	Level 2	Link

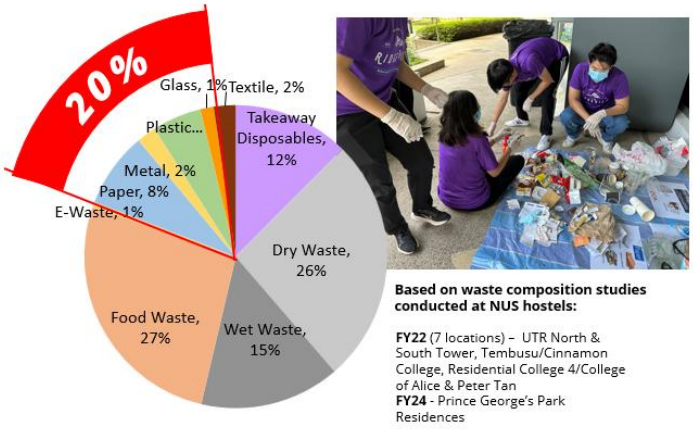
3.2 Common FAQs on sorting in hostels

Q1. Why need to sort recyclables in hostels?

Recycling rates across hostels have been low due to 1) highly contaminated collection in mixed recycling chutes and 2) recyclables are still being thrown into general waste.

Non-recyclables and contaminants found in hostel recycling chutes

20% of waste disposed could have been recycled if sorted right



Q2. Why not have recycling chutes on every floor?

While chutes disposal is convenient for residents, it encourages mindless throwing and wasteful behaviour with downstream implications.

At hostel checkouts, waste and recycling chutes are often seen choked due to inconsiderate disposal of bulky items (e.g. pillows, bedsheets, cardboard), resulting cleaners having to spend days to unclog and clear the waste. This is avoidable with careful sorting of waste and recyclables at central disposal points.

Collection from mixed recycling chutes is often not accepted for recycling, due to non-recyclables (e.g. bubble wrap, LDPE-4 plastics) and contaminants (e.g. food waste, beverage cartons) thrown in by some residents. Central disposal points with transparent bins and tracked usage is to minimise impact from such errant behaviour, so every sorted recyclable can be sent for recycling.

Q3. What happens to existing recycling points and chutes?

Mixed recycling chutes in high rise hostels have been converted to single-stream recycling collection as additional sorting touch points. While waste chutes remain to support cleanliness and hygiene.

The utilisation of other distributed recycling points in hostels is being reviewed and might be progressively reduced as RSS becomes the central sorting point for each hostel. This is to make sorting culture more visible within your hostel community, and to streamline operations for recycling collection.

Q4. What happens to the recyclables after I deposit them in the RSS?

Each recyclable collection bin is cleared regularly by the cleaning team to allow capacity for more collection.

Cleaners will consolidate the collection in homogenous streams at the nearest bin center for respective recycling vendors to pick up and transport to local Materials Recovery Facility (MRF).

At the MRF, the clean single-stream recyclables are baled or compacted before being sent overseas to neighbouring countries for further processing in recycling plants. Find out more on how each stream is processed here.

Q5. Would I know how much recyclables I have contributed to the RSS?

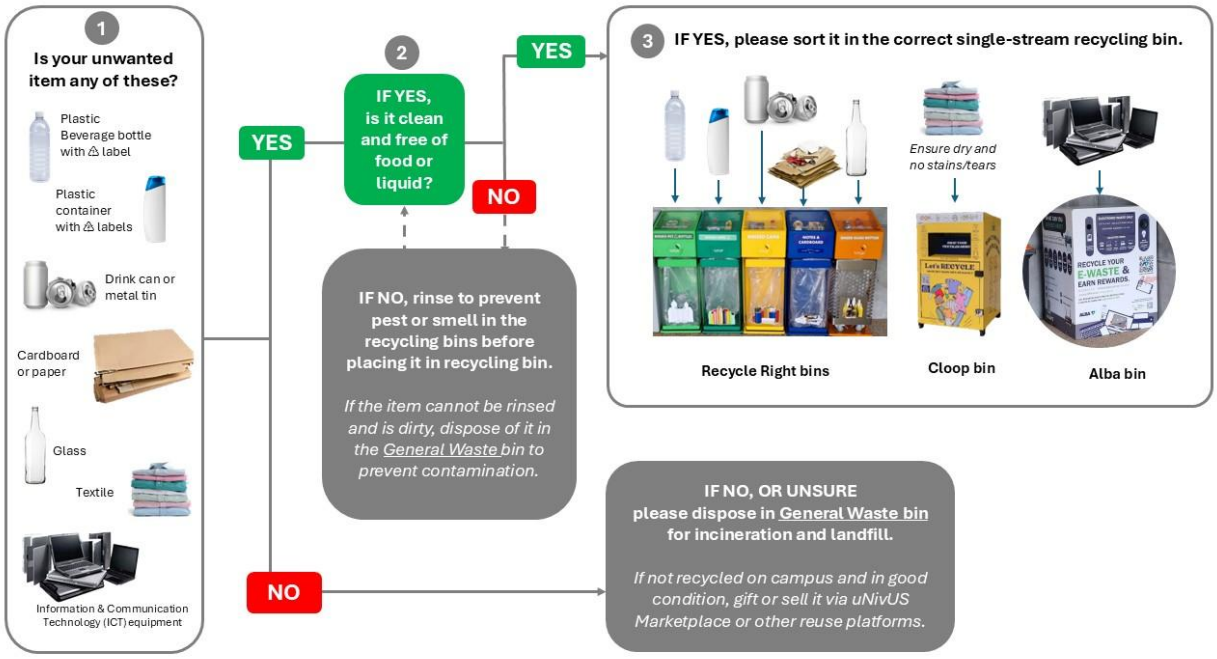
The RSS have load cells to track recycling collection tonnage. Total collection and breakdown by streams, will be regularly updated to respective hostel Masters to track each hostel's recycling progress.

Q6. I have a suggestion / feedback / query about sorting in hostels.

Please reach out to us at campus_sustainability@nus.edu.sg.

4. FREQUENTLY ASKED QUESTIONS (FAQ) ON CAMPUS RECYCLING

4.1 I have an unwanted item but I'm not sure if it can be recycled.



4.2 Why are plastic food & drink packaging not collected for recycling on campus?

Disposable plastic food & drink packaging, typically made of Polypropylene (PP-5), is not collected for recycling on campus as they are often contaminated with food waste and have poor market value. Instead, we encourage campus community to reduce disposable waste by switching to reusables for dine in or takeaways.

If you still want to send plastic takeaway containers / cups for recycling, you can put in the public blue bins outside the campus. Please ensure its empty and rinsed first.

4.3 Why are used beverage cartons (e.g. Tetra Pak) not collected for recycling on campus?

Beverage cartons are made of composite layers of paper, aluminium and plastics that are not easily separable for recycling (recycling requires homogeneous materials). To process beverage cartons, they need to be sent to dedicated specialised facilities where they are usually downcycled into Polyal – a mixture of plastic and aluminium with poor market value. The amount of beverage cartons disposed on campus is relatively low, compared to other common waste streams, thus costly and impractical to collect for recycling.

If you still want to send used beverage cartons e.g. milk carton, drink packet or juice packet, for recycling, you can put in the public blue bins outside the campus. Please ensure its empty, rinsed and flattened first.

4.4 Why are other kinds of materials or items not collected for recycling on campus?

There are several criteria we consider when deciding whether an item or material can be collected for recycling on campus. This is to ensure that each sorted item does get processed for recycling.

- **Enough quantity generated on campus:**

Materials that are generated in large quantities on a frequent basis (e.g. paper, PET♺ bottles) are collected by appointed vendors for processing in local or overseas facilities. Materials generated in small quantities on campus are logistically challenging to accumulate enough quantity or costly to transport small amounts for processing.

- **Separable into homogenous materials for efficient processing:**

Recycling requires single-stream collection. Collection that is contamination with non-recyclables or mixed materials are often not accepted for recycling.

- **Market demand to be recycled into useful by-products**

Prioritising closing waste loop, i.e. Plastic PET-1 beverage bottles to be processed into rPET-1 beverage bottles, preserving material integrity

4.5 Where do I find information on campus waste and recycling statistics?

The latest information on campus waste and recycling can be found through the annual environmental disclosures on Campus Sustainability website.

4.6 My office generates large quantity of confidential papers and laptops to be decommissioned, where do I send them?

Staff departments can use ALBA Step-Up app to request for doorstep collection of these items. There is no charge for NUS staff to utilise this service, but please note the minimum quantity for each request:

- Confidential papers: At least 6 printing paper boxes worth
- Regulated e-waste: At least 20 pieces of info comms equipment (excluding accessories such as cables, mouse or keyboard).

Download the ALBA Step Up App from the App Store or Google Play. For more info, visit link.

4.7 My office has unwanted furniture, where can I donate or dispose them?

If the furniture is in good condition, you may post on uNivUS Marketplace app to donate or sell to NUS colleagues or students. This platform is only accessible within NUS community.

For large items or furniture that are damaged and require disposal, please write to maintenance.nus.edu.sg for assistance.

In support of **Singapore's national Beverage Container Return Scheme**

(Refer to BCRS.sg for more details of the scheme)

4.8 Where can I go to return my beverage bottles and cans with a 10¢ Deposit Mark?

Besides the RVM at UTown (Main Walkway near UTown Residence), the other nearest return points from campus, are at NUH Medical Centre (FairPrice) and at West Coast Plaza (Cold Storage). Check map for other nearby options.

More RVMs will be placed across the campus in later phases.

4.9 Who can I contact if I encounter issues at the RVM?

If you encounter any issues at the RVM, e.g. machine is full or not able to get refund, please contact **BCRS support line +65 6035 5886**. For email enquiries regarding the scheme, you can contact the operator at info@bcrs.sg.

If you have other queries on recycling on campus, please email campus_sustainability@nus.edu.sg.