



ENVIRONMENTAL SUSTAINABILITY DISCLOSURE REPORT FY2023

HEALTH SCIENCES AUTHORITY



Contents

1) Introduction

- 1.1 About This Report and Reporting Boundary
- 1.2 About HSA (Vision, Mission, Our Core Values & Roles)

2) Board and Senior Management Statement

- 2.1 Board Member's Foreword
- 2.2 Message from CEO

3) Governance Structure for Environmental Sustainability

4) Indicators, Targets & Performance

- 4.1 Key Highlights
- 4.2 Greenhouse Gas (GHG) Emission
- 4.3 Energy Consumption
- 4.4 Water Consumption
- 4.5 Waste Generation

5) Incorporating Sustainability into Other Core Business Areas

- 5.1 Information Management (IM)
- 5.2 Procurement

6) Building a Sustainability Culture

- 6.1 Awareness & Education Programme
- 6.2 Sustainability Practices
- 6.3 Community Engagement
- 6.4 Environmental Conservation

1.1 About This Report

This is the Health Sciences Authority's (HSA) inaugural Sustainability Report. It outlines HSA's approaches in attaining the GreenGov.SG targets, fostering a sustainable organisation and improving our environmental sustainability performance. The reporting period for these environmental disclosures is from 1 April 2023 to 31 March 2024. Highlights of some of our sustainability efforts since 2013 are also included in this report.

Reporting Boundary

This disclosure report covers HSA's operations at the locations listed below:

1. HSA Building at 11 Outram Road;
2. Health Products Regulations Group (HPRG)'s offices at Biopolis Way;
3. Mortuary at SGH Block 9;
4. DNA Profiling Laboratory at Biopolis Drive;
5. Chemical Metrology Laboratory at Science Park II; and
6. Four satellite Bloodbanks located at Woodlands Civic Centre, Westgate Tower, Dhoby Xchange and One Punggol.

1.2 About Health Sciences Authority

Vision

To be the leading innovative authority protecting and advancing national health and safety.

Mission

To wisely regulate health products, serve the administration of justice, secure the nation's blood supply, and safeguard public health.

Our Core Values



Service to the nation

We are part of the Singapore Public Service, committed to integrity, excellence, and efficiency.



Passion for excellence

We aim to be the best in all that we do.



Develop our community

We value our people and build trusted teams.



Inspire trust

We act with credibility, professionalism, and integrity, to instil public trust and confidence.



Live innovation

We seek to constantly improve and transform.

Roles of HSA

HSA is a multidisciplinary authority applying medical, pharmaceutical and scientific expertise through its three professional groups, to protect and advance national health and safety.

Applied Sciences Group – We serve the administration of justice with the use of forensic medicine, forensic science, and analytical chemistry testing.

Blood Services Group – We secure the nation's blood supply by ensuring a safe and adequate blood supply for public and private hospitals.

Health Products Regulation Group – We regulate health products to meet standards of safety, quality, and efficacy.



2.1 BOARD MEMBER'S FOREWORD



Prof Tai Lee Siang

The Board and senior management of HSA recognise the importance of environmental sustainability. We are committed to integrating sustainable practices into our organisational culture and operations, with the aim of minimising our environmental impact and contributing to a healthier planet for current and future generations.

Our commitment to environmental sustainability is reflected in our strategic initiatives, resource allocation, and decision-making processes. We understand that our actions today will have a lasting impact on the environment, public health, and the well-being of our community. HSA is therefore dedicated to continuously improve our environmental performance and foster a culture of sustainability throughout the organisation.

Through collaboration with stakeholders, adoption of innovative technologies, integrating top-down and bottom-up initiatives and adherence to best practices, we aim to reduce our carbon footprint, conserve natural resources, and promote environmental stewardship in all aspects of our work.

Furthermore, we are committed to transparency and accountability in our environmental sustainability efforts. HSA will regularly assess and report on our environmental performance, set ambitious targets for improvement, and engage our stakeholders to foster a shared commitment to sustainability.

We believe that by embracing environmental sustainability, we can fulfill our responsibility as a healthcare authority and inspire positive change within the industry and contribute to a more sustainable and resilient future for all.



2.2 CEO'S MESSAGE



Dr Choong May Ling, Mimi

Since HSA was established in 2001, we have been serving the administration of justice, securing the nation's blood supply, regulating health products, and safeguarding public's health. Supporting numerous testing laboratories and corporate office spaces, our resource-intensive operations present a significant opportunity for us to make a substantial impact on waste minimisation.

There has been an increasing need to weave sustainability into every aspect of our operations as we face the threats of climate change and rapid resource depletion.

Since 2010, HSA has embarked on its sustainability journey and actively prioritised the implementation of sustainable processes and inculcating sustainable practices in our workplace and infrastructures. We are proud to present our inaugural Sustainability Report which reflects our efforts and ambitions in becoming a low-carbon, climate resilient, and resource-efficient organisation.

HSA has been actively engaging our management and officers in promoting energy and water conservation, waste segregation, and 3R (Reduction, Reuse, Recycle) initiatives. These efforts aim to reduce unnecessary carbon emissions by encouraging the reduction, reuse and recycling of waste. We have taken an educational approach by promoting sustainable practices through emailers and have made recycling more convenient by increasing the number of recycling points.

We understand that achieving sustainable practices requires consistent efforts and collaboration. HSA believes that by working together with external partners such as professionals, researchers, and our community, we can create a healthier and greener future. We are dedicated to implementing sustainable initiatives that prioritise the well-being of both people and the environment.



3) SUSTAINABILITY THROUGH GOVERNANCE

Overview

The Board and CEO are responsible for providing strategic direction and leadership to advance sustainability efforts.

The HSA Sustainability Committee was established in June 2023 to strengthen sustainability efforts within HSA. It is led by the Group Director of Corporate Services Group, a member of the senior management team, and comprises officers from different key functions and supported by the Secretariat.

The Committee oversees the implementation of strategic sustainability initiatives, promotes good practices, tracks sustainability efforts and indicators in the organisation. These initiatives include the greening of HSA building, as well as efforts in the areas of procurement, laboratory processes, and data centre.

Updates of the activities and KPIs are reported to senior management on a half yearly basis.

Board's Oversight and CEO

Sustainability Committee

Chair

Group Director
Corporate Services Group

Committee Members

Nominated Staff from the Professional
Groups and Corporate Services

Secretariat

Infrastructure & Sustainability staff

HSA Staff



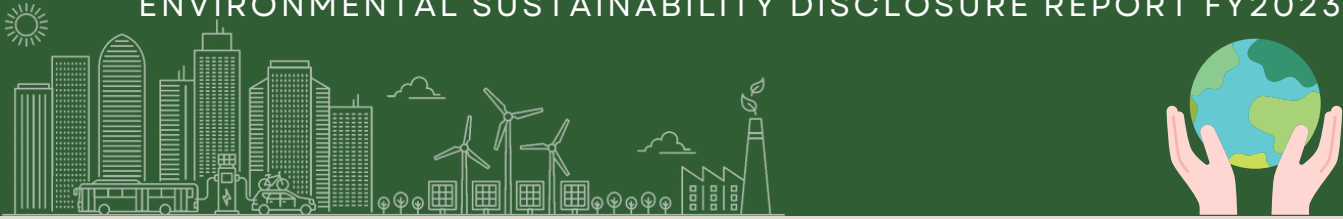
4) ENVIRONMENTAL SUSTAINABILITY INDICATORS, TARGETS AND PERFORMANCE

Overview

HSA is committed to reducing electricity, water, and waste to achieve the SG Green Plan 2030 target. We adopted a phased approach aligned with the sustainability targets of our parent ministry, Ministry of Health (MOH).

The Applied Sciences Group (ASG), Blood Services Group (BSG) and Health Products Regulation Group (HPRG) offer the key services that HSA provides. We recognise the importance of fostering a sustainable culture and are committed to integrating sustainable practices into our business processes to enhance environmental sustainability performance for electricity, water and waste.

Outlined below are our performance indicators and highlights of staff contributions towards meeting these targets. Collectively, there have been improvements to HSA's Greenhouse Gas (GHG) emissions, resource utilisation and waste generation from the baseline levels.



4.1 Key Highlights

HSA has embarked on the sustainability journey since 2010. Below are some of our achievements:

BCA GREEN MARK (GM) PLATINUM



2019 - HSA building achieved GM Platinum award.

2022 - Recertification of GM Platinum award.

WATER



HSA building is certified as a water-efficient building.

2017 - Replaced 13 water taps with 3-tick WELS taps, and adjusted the water flow for better regulation.

Savings:
1,250 m³/year

ELECTRICITY



2013 - Implemented NEA's Guaranteed Energy Savings Performance (GESP) contracting model for 2 chillers.

2016 - Replaced 6 Air Handling Units (AHU).

2017 - Replaced fluorescent lights with LED lights in offices, laboratories, and common areas in HSA building.

2019 - Implemented GESP for the 3rd chiller.

Savings:
1.86M kWh/year

GENERAL WASTE



2022 - Segregated waste into: non-regulated e-waste; e-waste; and metal items; etc.

Reduction:
18.9 ton/year


COOL PAINT



2023 - Applied cool paint to the roofs of Bin centre and the Solvent store.

Reduction:
Approx 1.3 deg C

SOLAR PANEL



2023 - Installed 22 units of solar panels at 2 carparks to power street lighting.

Savings:
6,200 kWh/year



4.2 Greenhouse Gas (GHG) Emissions

Target: Peak emissions around 2025

In FY2023, GHG emissions rose mainly because of increased energy consumption. This surge in energy usage directly correlates with the rise in carbon emissions, with electricity consumption (scope 2 emissions) being the major contributor. Our goal is to peak carbon emissions by 2025, and we are actively exploring ways to enhance building efficiency standards and decrease energy consumption, while meeting the organisation's needs.

Performance kt CO ₂ e (% of total)	FY2021	FY2022	FY2023
Direct Carbon Emissions (Scope 1)			
Town gas and diesel for standby generator and vehicle	0.004 (0.001%)	0.003 (0.001%)	0.004 (0.001%)
Indirect Carbon Emissions (Scope 2)			
Electricity (Outram and 9 tenanted premises)	4.672 (99.999%)	4.356 (99.999%)	4.502 (99.999%)
Total Scope 1 & 2 Emissions	4.676	4.359	4.506

Notes:

1. Scope 1 emissions refer to direct emissions that occur from sources owned or controlled by HSA.
2. Scope 2 emissions refers to indirect emissions that result from the use of electricity.
3. HSA purchases electricity from power grids and the grid emission factors (GEF) are obtained from Singapore Energy Market Authority (EMA). FY2021 carbon emission is calculated based on 2020 GEF of 0.407; FY2022 carbon emission is calculated based on 2021 GEF of 0.409 and FY2023 carbon emission is calculated based on 2022 GEF of 0.417.

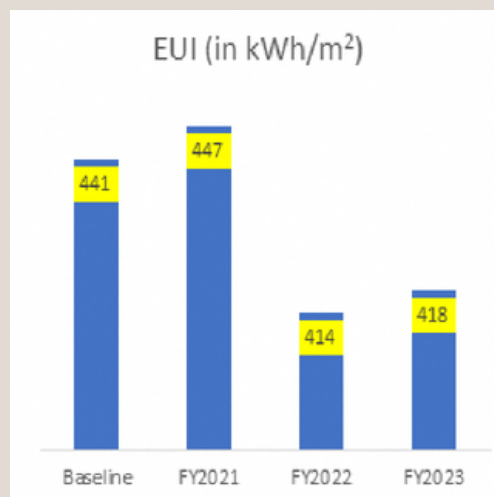
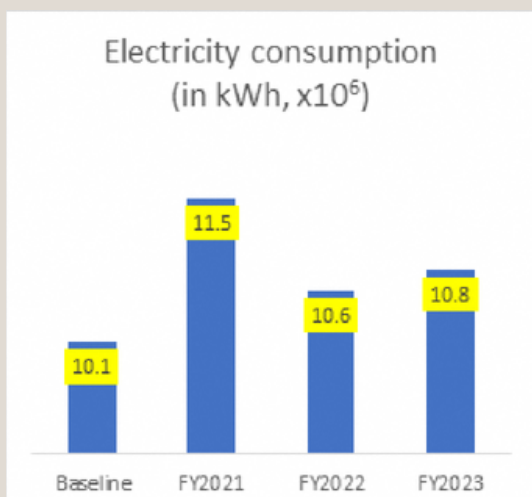


4.3 Energy Utilisation Index (EUI)

Target: 10% reduction in Energy Utilisation Index (EUI)⁴ by 2030, compared against the baseline (average of 2018 – 2020 levels).

In FY2023, HSA used 10,795,405 kWh of electricity, a 6.7% increase from the baseline. This rise could be attributed to the opening of the Biologics Laboratory in HSA building and expansion of our facilities. Our facilities grew from 25,702 sqm in FY2021 to 25,737 sqm in FY2022, and further to 25,803 sqm in FY2023, following the leasing of additional spaces for the expansion of Bloodbank at Dhoby Ghaut and storage at Helios.

The EUI of HSA was 418 kWh/m², 5.2% lower than the baseline. This reduction was achieved through the implementation of “Replace and Reduce” strategies.



HSA's Energy Consumption				
	Baseline	FY2021	FY2022	FY2023
Electricity consumption (in kWh)	10,116,940	11,479,288	10,649,429	10,795,405
EUI (in kWh/m ²)	441	447	414	418



Some of the “Replace and Reduce” strategies are:

- Replace fluorescent lights with LED lights across our premises
- Adjust office area air conditioning to 25°C
- Install solar panels for street lightings at carparks
- Use industrial fans in the warehouse instead of air-conditioning after office hours
- Apply light-reflective paints on the roofs of buildings to lower the indoor temperature
- Turn off power supply or set equipment to standby mode for office and lab equipment
- Reduce the number of digital photocopiers by 5 units through resource maximisation and centralisation

Pharmaceutical Lab reduced the operating hours for glassware drying oven from 24 hours to 10 hours per working day.

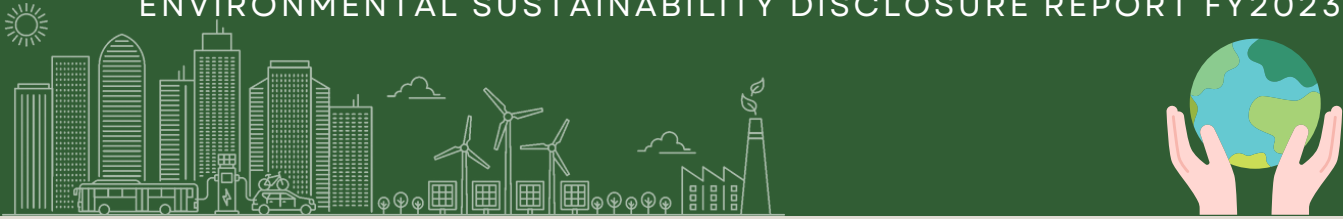
Energy Reduction:
9,828 kWh/year



Notes:

4. EUI is defined as the total electricity consumed by a facility in one year divided by its total gross floor area (GFA).
5. The formula used to calculate the EUI is as follows:

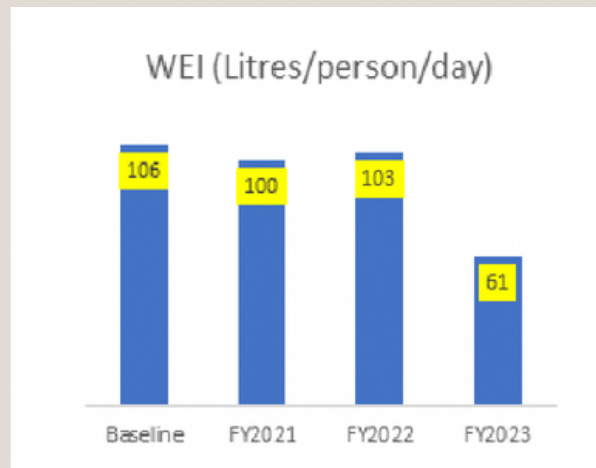
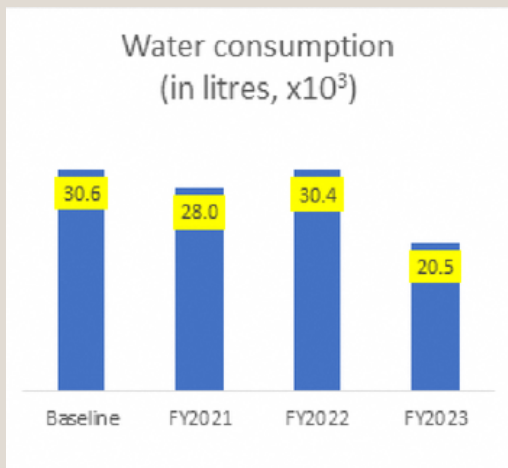
$$\text{Agency EUI in Year N} = (\text{Total amount of electricity consumed for all Agency premises in EUI in Year N}) / (\text{Total GFA for all Agency premises in EUI in Year N})$$
6. Bloodbank@One Punggol was soft launched in July 2023 and the electricity performance would be considered in the next FY.



4.4 Water Efficiency Index

Target: 10% reduction in Water Efficiency Index (WEI)⁷ by 2030, compared against the baseline (average of 2018 – 2020 levels).

In FY2023, HSA consumed 20,538L of water, a 32.8% decrease from the baseline. The WEI in FY2023 was 61 litres per person per day, which was an improvement of 42.5% compared to the baseline.



HSA's Water Consumption				
	Baseline	FY2021	FY2022	FY2023
Water consumption (in litres)	30,585	27,979	30,380	20,538
WEI (in litres/person/day)	106	100	103	61

Despite the gradual reopening after the COVID-19 pandemic, with more staff returning to the office and an increased in the number of visitors, there was a reduction in WEI. This was achieved through implementing “Replace and Reduce” strategies such as:

- Install motor sensor water taps; and
- Replace water efficiency spray guns for bin center and landscape watering.



In addition, the labs also contributed to the reduction of water usage:



CHEMICAL METROLOGY LAB (ASG)

Replaced manual washing of laboratory wares for inorganic measurements with an automated acid reflux cleaning system, eliminating the use of water.

Water Reduction:
192 L/year



PHARMACEUTICAL LABORATORY (ASG)

Replaced manual washing of vessels for dissolution tester with an automated washer.

Water Reduction:
1,776 L/year



BLOOD SUPPLY MANAGEMENT (BSG)

Reviewed its practice of washing of microplates and now conducts washing when the lab washer is at full load.

Water Reduction:
540 L/year

Notes:

7. WEI is defined as the water consumption per day divided by the total number of public officer headcount including visitors to the premises.
8. The formula used to calculate WEI is as follows:

$$\text{Agency WEI in Year N} = \frac{[\text{Total amount of water consumed for all Agency premises in Year N} \times 1000]}{\text{Average number of operational days in Year N for all Agency premises} \times (\text{Average number of staff per day for all Agency premises} + (0.25 \times \text{Average number of visitors per day for all Agency premises}))}$$
9. Bloodbank@One Punggol was soft launched in July 2023 and the water consumption would be updated in the next FY.



4.5 Waste Disposal Index (WDI)

Target: 30% reduction in Waste Disposal Index (WDI)¹⁰ by 2030, compared against the 2022 baseline.

In FY2023, waste generation decreased by 12.6% compared to the baseline, resulting in a 23.6% reduction in the WDI. This was due to HSA's waste segregation planning which started in 2021. Items across various waste streams, including regulated e-waste, non-regulated e-waste, toner & cartridges, metal, paper, and other recyclable items, were actively recycled. With proper waste segregation, HSA successfully recycled 9.7 tonnage of waste in 2023.




As the building owner of the HSA Building at Outram, waste management is centralised. The waste generation data was obtained from the appointed Public Waste Collector by the National Environment Agency (NEA).

HSA's Waste Generation		
	Baseline	FY2023
Waste disposed of (kg)	92,517	73,571
WDI (in kg/person/day)	0.433	0.331

Other waste reduction initiatives from the laboratories and the HPRG are:

<p>HPRG publicises HSA Adverse Drug Reaction (ADR) News Bulletin three times a year to raise awareness of adverse events relating to health products among healthcare professionals and to promote adverse events reporting to HSA.</p> <p>It used to be an 8-page bulletin, disseminated in hardcopy to all healthcare professionals. In 2020, the bulletin was streamlined to a one-page bulletin, containing article summaries with QR codes for readers to access the full articles on HSA's website.</p>	<p>Outcome:</p> <p>Cost savings: Approx. 65% per issue</p> <p>Reduction of paper usage: 75%</p> <p>Customer Satisfaction: 89% of the survey respondents found the new format of the bulletin useful and were supportive of the initiative.</p>
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 <p>Tissue Typing Lab, BSG repurposes plastic bottles for wash buffers from Blood Supply Management (BSM) to contain waste for disposal. This minimises waste and promotes a more sustainable approach within the lab.</p>	<p>Recycled: 1,080 plastic bottles/year</p>
<p>Chemical Metrology Lab, ASG replaced manual washing using diluted nitric acid with an automated acid reflux cleaning system.</p>	<p>Reduced chemical waste (Nitric acid waste) by 228 L/year</p>
 <p>Blood Supply Management, BSG reuses the empty saline bottles generated from the preparation of diluted anti-sera.</p>	<p>Recycled: 72 bottles/year</p>
 <p>Blood Resources, BSG The Bloodbanks have replaced* plastic water bottles with water dispensers for donors. Encouraging the use of paper cups or reusable water bottles, the Bloodbanks are taking a greener approach, aligning with our commitment to environmental responsibility.</p> <p>Furthermore, prominently labeled waste bins are available at Bloodbanks to promote responsible waste segregation for both donors and visitors.</p>	<p>Reduction of plastic waste and promote efficient water consumption</p> <p><i>*A limited supply of bottled water will be necessary and kept aside at collection centres to assist donors in case of adverse donation reactions.</i></p>



Notes:

10. *WDI is defined as the total waste disposed of per day divided by the total number of public officer headcount including visitors to the premises.*
11. *The formula used to calculate WDI is as follows:
Agency WDI in Year N = [Total amount of waste disposed of for all Agency premises in Year N] / [Average number of operational days in Year N for all Agency premises × (Average number of staff per day for all Agency premises + (0.25 × Average number of visitors per day for all Agency premises))]*
12. *The average number of operational days at HSA main building is taken to be 275 days in a year.*



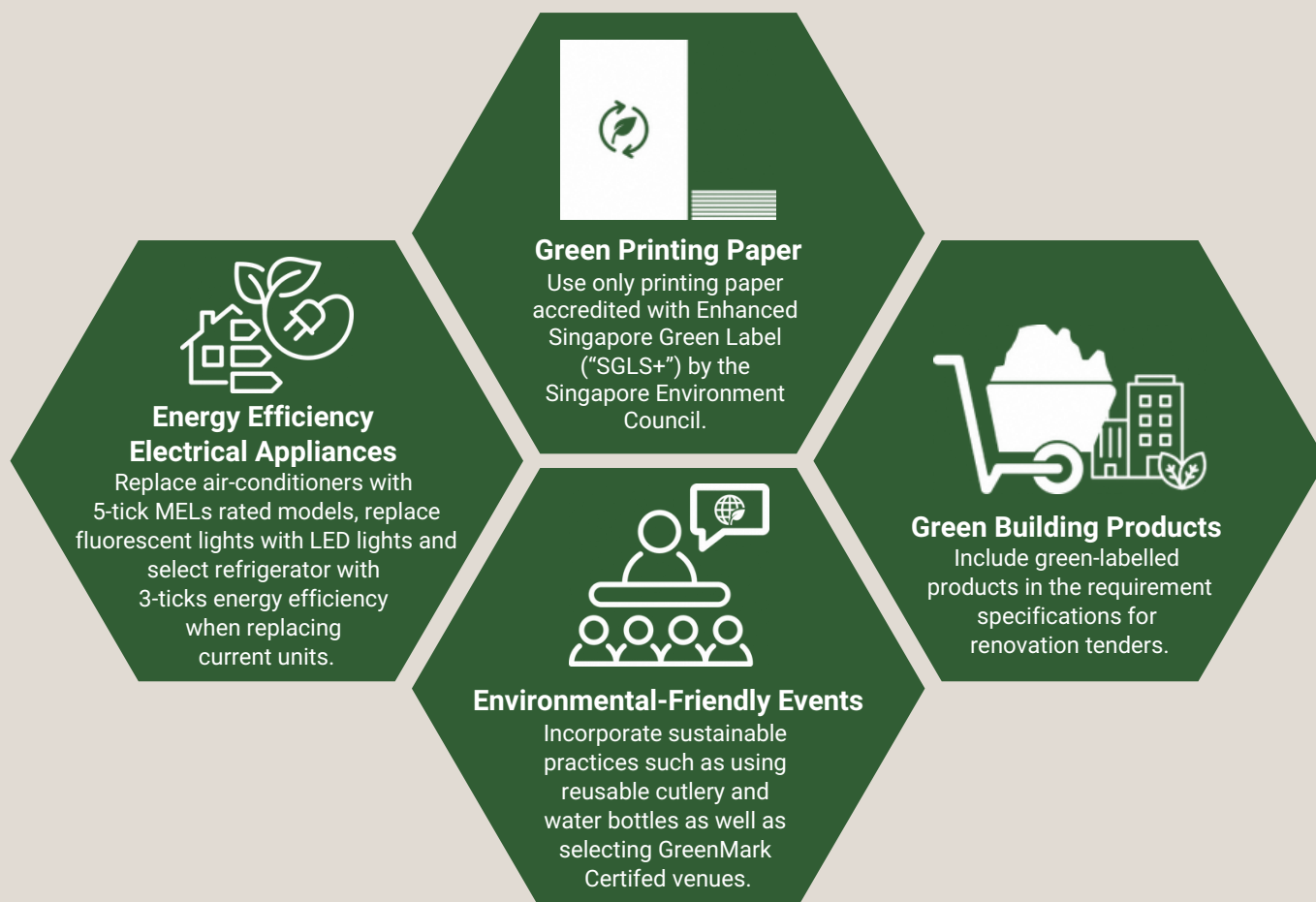
5) Incorporating Environmental Sustainability in Other Core Business Areas

5.1 Information Management (IM)

IM has adopted cloud-based hosting and plans to decommission redundant servers starting from FY2024. This initiative aims to reduce the physical footprint and minimise the carbon footprint. Additionally, they are working with their contractor to test the optimal temperature for performance stability in the Data Centre. These strategies will reduce energy consumption in the Data Centre, contributing to an overall reduction in energy consumption in HSA.

5.2 Green Procurement

Green procurement practices prioritise the purchase of environmentally friendly products and energy-efficient equipment. This includes sourcing accredited white printing paper, refrigerators with high energy ratings, and water-efficient fittings for premises, minimising environmental impact while supporting green technologies.





6) Building a Sustainable Culture

HSA is committed to promoting sustainable environmentalism. The philosophy of **Caring Action, Responsible for our Environment (C.A.R.E.)**, serves as the foundation to foster a sustainability culture that aims to drive behavioural, and attitude changes among staff to make a positive impact on society and the environment for the benefit of future generations.

Various initiatives, advocating an efficient use of resources, reducing waste generation, and implementing green practices, were rolled out in 2023 to raise staff awareness and encourage them to adopt environmentally friendly habits that reinforce HSA's commitment to environmental stewardship and contribute to the broader national sustainability.

6.1 Awareness and Education Programme

To inculcate a sustainability mindset among staff, HSA has implemented several awareness and education programmes, including:

- **Sustainability Literacy Series:** A 7-week series of short videos covering the 5 Pillars in Singapore Green Plan, aimed at enhancing staff's understanding of the connection between sustainability in our daily lives and the environment.



- **Quarterly Communications Emailers:** Sharing of environmental sustainability measures and performance as well as best practices to motivate staff to reduce, reuse and recycle and to work together towards the common sustainability goals.



6.2 Sustainability Practices

Various sustainable practices were rolled out and staff were roped in to contribute their part to effect changes. These include:

- **“BYO” (Bring Your Own) Movement:** Discontinuing the use of disposable cups in pantries and meeting rooms, and the supply of bottled water for all HSA events. Staff are encouraged to bring their own tumblers/cups for their drinks.
- **“Lights Out”:** In addition to observing Earth Hour, the "lights out" practices are extended to lunch hours of every Friday to demonstrate collective commitment to environmental responsibility and energy saving. Lights in areas that may not be required for essential task or safety, such as non-essential signage or display, common areas like corridors, unused electrical appliances and unoccupied offices and facilities, would be switched off during the stipulated time.



- **Resource Conservation:** Regular reminders are sent to staff to switch off computers, air-conditioners, printers, and lights after work to save electricity. Staff are also encouraged to use separate bins for different types of waste.

6.3 Community Engagement

HSA actively involves our staff, together with their families and friends, in community initiatives. For instance:

- **SG Clean Day:** Participated in SG Clean Day, a community-wide effort to make Singapore a cleaner and better home for everyone.



- **Donation Drive:** Collection of unwanted but reusable items such as luggage, kitchen appliances and men’s accessories for donation to migrant workers through ItsRainingRaincoats (IRR). This effort gives a new lease of life to unwanted items while making a positive contribution to sustainability. A total of 368 items weighing 71 kg were collected during the 1-week drive in July 2023.



6.4 Environmental Conservation

HSA actively participates in environmental conservation efforts, such as:

- **Waterway Clean-up:** On 19 December 2023, staff volunteered to clean up the Marina Reservoir area and collected 20 kilograms of trash within an hour. The initiative included an educational sharing session on the issues facing the water resources in Singapore and facilitated discussions on individual contributions to protecting water resources. Out of 30 available slots, 25 staff (83.33%) signed up for the event.



- **Recycling Efforts:** Encourage staff to adopt recycling habits, both in the office and at home, by actively using the “Bloobin” to collect recyclable items from their households.

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