Environmental

The Manager is committed to sustainability efforts that are aligned with Singapore Green Plan 2030 and net zero emissions by 2050 commitment. The section covers three material matters: **Energy and Climate Change, Quality, Sustainable Products and Services** and **Water Management** and one non-material matter, **Waste Management**.

Energy and Climate Change

3,492 kWp
total solar capacity installed across 10 property clusters in Singapore

1.8 million kWh
annual energy savings from LED lighting upgrades in 46 properties across 27 clusters in Singapore

26.1%
reduction in average building Scope 2 GHG emissions intensity for Singapore properties from FY19/20

Quality, Sustainable Products and Services

4
recertifications of BCA Green Mark Gold Awards

31%
of portfolio (by AUM) with sustainable building certifications

Water Management

57,235m³
of recycled water used across all properties

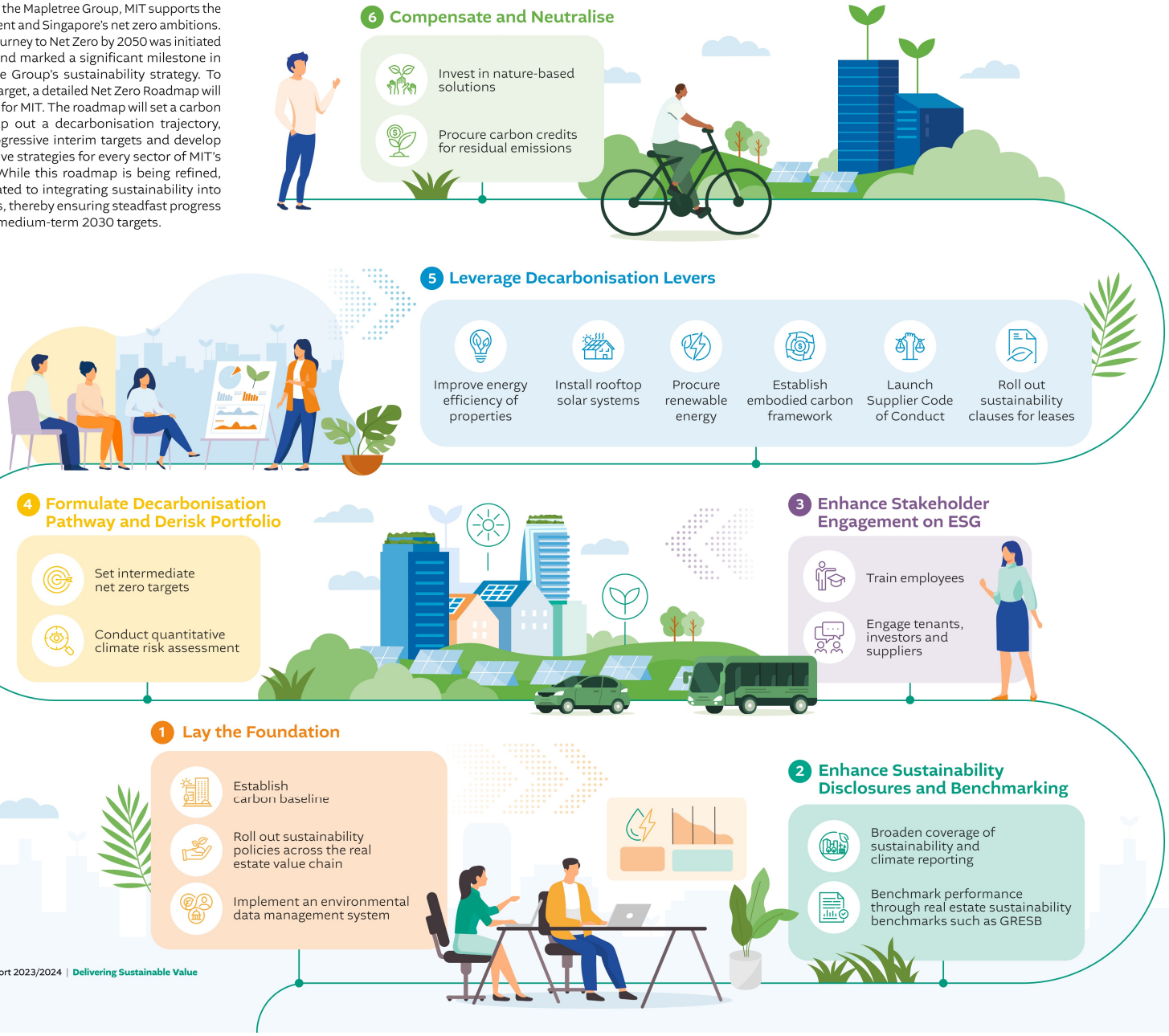
4
initiatives on water conservation

Waste Management

6%
waste recycled

Net Zero Progress

Together with the Mapletree Group, MIT supports the Paris Agreement and Singapore's net zero ambitions. Mapletree's journey to Net Zero by 2050 was initiated in FY21/22 and marked a significant milestone in the Mapletree Group's sustainability strategy. To achieve this target, a detailed Net Zero Roadmap will be developed for MIT. The roadmap will set a carbon baseline, map out a decarbonisation trajectory, establish progressive interim targets and develop comprehensive strategies for every sector of MIT's operations. While this roadmap is being refined, MIT is dedicated to integrating sustainability into its operations, thereby ensuring steadfast progress towards the medium-term 2030 targets.



FY23/24 Highlights

Environmental Data Management System Implementation

In FY23/24, the Mapletree Group embarked on the rollout of an environmental data management system. The system will be deployed for MIT's properties in Singapore and play a crucial role in the monitoring of consumption and emissions-related data. Its implementation will streamline carbon baselining processes for all MIT's properties, thus facilitating the setting of its medium-term net-zero targets and the prioritisation of carbon reduction strategies. The full-scale implementation is anticipated to be finalised by FY24/25.

Value Chain Management

Embodied carbon – which encompasses emissions associated with materials production, transportation and the construction process – accounts for approximately 11% of global carbon emissions[6]. The Manager is cognisant of the significance of embodied carbon footprint from its development projects and is committed to doing its part to minimise the impact to the environment.

To address this challenge, the Manager leverages the resources of the Mapletree Group as the Group Development Management Department has begun to track the embodied carbon for development projects. Given the complexity of covering all materials and activities throughout the construction process, priority will be given to key activities with the highest contribution to MIT's overall embodied carbon footprint, specifically activities associated with concrete, reinforcement bars and structural steel elements.

As part of the Mapletree Group's Sustainable Development Policy, various initiatives have been introduced to encourage the adoption of sustainable building systems and the use of certified green building products. Main contractors are also required to track and report embodied carbon from materials usage and construction activities throughout the project development period. These efforts underscore the Mapletree Group's commitment to minimising embodied carbon and advancing sustainable development practices in all future development projects.

[6] Source: Bringing Embodied Carbon Upfront, World Green Building Council, 2019.

Energy and Climate Change

Business Model Innovation

As a signatory to the UN PRI, the Mapletree Group has made significant strides in aligning its investment activities with sustainable and responsible practices. The Manager affirmed the UN PRI's six principles by encompassing ESG considerations in its investment decision-making. The Mapletree Group also completed its inaugural reporting to the UN PRI in FY23/24. This ensured transparency and accountability on responsible investment activites.

Green Energy

Renewable energy sources are vital to MIT's net zero journey as they are replenished by nature and emit little to no GHG. During FY23/24, MIT made significant progress towards its interim FY29/30 target of 10,000 kWp solar power capacity. MIT increased the cumulative solar generating capacity year-on-year by 42% to about 8,347 kWp in FY23/24, with a total of 25 solar panel installations across 17 property clusters in Singapore.

Solar Panels Installed Across MIT's Portfolio

25 Solar panel installations across **17** property clusters

6,270 MWh of renewable energy generated in FY23/24

Generating capacity of about **8,347** kWp

Phase 1
1. K&S Corporate Headquarters
2. Serangoon North

Phase 2
3. Chai Chee Lane
4. Kampong Ubi
5. Kolam Ayer 5
6. Loyang 1
7. Loyang 2

Phase 3
8. 18 Tai Seng
9. 45 Ubi Road 1
10. Kallang Basin 1
11. Kallang Basin 2
12. Kallang Basin 5
13. Kallang Basin 6
14. Toa Payoh North 2
15. Toa Payoh North 3
16. Tiong Bahru 1
17. Tiong Bahru 2

Why is this important? 3-3

The built environment is a major contributor to annual global carbon dioxide ("CO_2") emissions, accounting for approximately 42% of global CO_2 emissions. Of which, building operations are responsible for about 27% of the global CO_2 emissions[7]. The Manager and the Property Manager are committed to reducing their carbon footprint. They are also aligned with the Singapore Green Plan 2030, which sets the nation on a path towards net zero emissions by 2050.

Management approach 302-4

The Manager adopts a three-pronged approach to energy management.

Reducing energy consumption and improving energy efficiency are the most cost-effective and impactful ways to manage the energy profiles of MIT's properties. Every month, the Property Manager monitors and assesses utility consumption patterns and identifies energy-saving opportunities.

Reducing Energy Consumption

- Designing and constructing high-performance building envelopes for new developments
- Monitoring and recalibrating of temperature setpoints
- Utilising building automation systems by coordinating operations based on occupancy patterns and external conditions
- Engaging tenants in energy conservation practices

Improving Energy Efficiency

- Installing LED lightings, motion sensors as well as alternate light circuits and timers
- Replacing of heating, ventilation and air conditioning units to energy-saving models
- Upgrading of chiller systems and lifts

Increasing Renewable Energy Adoption

- Installing solar panels in properties in Singapore
- Installing hybrid solar LED lights

CASE STUDY

Hybrid solar LED lamp post at the Woodlands Spectrum Cluster

LED lighting upgrades in **46** properties across **27** clusters

Equivalent to total energy savings of **1.8 million kWh** annually

109 hybrid solar LED lamp posts at Woodlands Spectrum Cluster

LED Lighting Upgrades

The Manager and the Property Manager progressively carried out LED lighting upgrades in 46 properties across 27 clusters in the Singapore Portfolio. The scope of work included the replacement of T5/T8/PLC/Sodium lamps with LED lightings at common corridors, car parks, building perimeter, loading bays, staircases and driveways. Motion sensors and dimmable lighting were also installed in areas with low human traffic.

The Manager and the Property Manager also installed hybrid solar LED lightings in the lamp posts at the open space car park in the Woodlands Spectrum Cluster. This setup harnesses solar energy during the day to illuminate the area at night, significantly lowering the cluster's energy usage. Additionally, the system is linked to an external power circuit, providing a backup power supply.

[7] Source: Architecture 2030, Why the built environment, 2023.

Environmental Management System

Externally Certified EMS

In line with its commitment to achieve net zero emissions by 2050, the Manager has set a target to achieve ISO 14001:2015 certification for the EMS in FY24/25. This marks another milestone in its approach to managing the environmental impact within MIT's properties and business operations. In addition, the implementation of an EMS will enhance MIT's environmental performance while improving its management of environmental risks and opportunities.

Tenant engagement and capacity building

Tenants are invited to participate in MIT's environmental initiatives, including global movements like Earth Hour and Earth Day. These initiatives are part of a broader strategy to raise awareness about environmental issues and inspire positive action for the planet.

Lightings at MIT's selected properties and corporate offices are switched off for one hour during annual Earth Hour to demonstrate the support for environmentally sustainable action. During the annual Earth Day, all facade and non-essential lightings and water features at MIT's selected properties and corporate offices in Singapore are switched off and air-conditioning temperature for common areas is increased by one degree Celsius. Tenants are also encouraged to participate in other events such as sustainability seminars and the Mapletree Group's tree-planting initiative, which foster a collective effort towards environmental sustainability.

Information on the tree planting initiative can be found in the Community Impact chapter on page 30.

Commitment to renewable energy 305-5

The Manager and the Property Manager have been proactively installing solar panels across MIT's properties . This strategic shift towards solar energy contributes to a decrease in GHG emissions and aligns with the global pursuit of sustainable energy sources. The use of solar energy allows for electricity to be generated on site and significantly reduces the demand for grid electricity. This will in turn reduce Scope 2 GHG emissions from MIT's properties.

During the reporting year, MIT's solar installations generated a total of 6,270 MWh of renewable electricity. Of which, 4,430 MWh was sold to the grid. The total emissions offset by this excess renewable energy represented around 1,846 tonnes CO_2e.

SPOTLIGHT

Unlock Sustainable Growth through Government Initiatives

To empower tenants in implementing sustainability initiatives in their companies, the Manager collaborated with SME Centre@SMF for an in-person sustainability event, "Unlock Sustainable Growth through Government Initiatives" on 25 October 2023.

Industry experts from various organisations – including the Energy Efficiency Technology Centre ("EETC"), Singapore Institute of Technology, Public Utilities Board ("PUB") and National Environment Agency ("NEA") – facilitated the event and shared insights on building sustainable practices into businesses.

Notably, guest speaker Dr Deepak L. Waikar from the EETC, presented on how to systematically deploy energy conservation, efficiency and management measures by citing the experience of the EETC in assisting SMEs in the Manufacturing Sector for Energy Assessment, Energy Efficiency Upskilling Programme and Energy Efficiency Talent Development.

The event was attended by a total of 102 representatives from 59 companies, including 41 tenant representatives.

Tenant engagement event with SME Centre @ Singapore Manufacturing Federation ("SMF")

CASE STUDY

14 solar panel installations across 10 property clusters

Generating capacity of about **3,492 kWp**

Solar Panel Installation

In FY23/24, the Manager and the Property Manager commenced Phase 3 of the solar panel installation. The solar panels were installed on the rooftops of MIT's 10 property clusters from July 2023 until March 2024 – 18 Tai Seng, 45 Ubi Road 1, Kallang Basin 1, Kallang Basin 2, Kallang Basin 5, Kallang Basin 6, Toa Payoh North 2, Toa Payoh North 3, Tiong Bahru 1 and Tiong Bahru 2 – with a total generating capacity of about 3,492 kWp.

The Manager and the Property Manager strive to complete the installation of the solar panels for the remaining six property clusters in FY24/25. This will help MIT achieve its total solar generating capacity target of 10,000 kWp across its portfolio by FY29/30.

Tiong Bahru 2 Cluster

Kallang Basin 2 Cluster

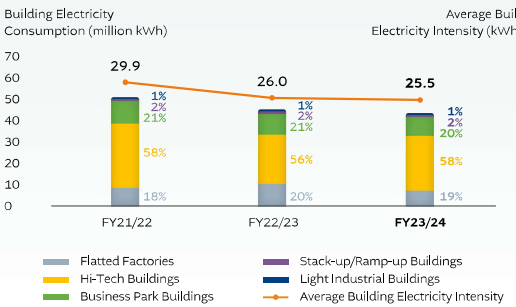
Energy and emissions performance

2-4 | 302-1 | 302-3 | 305-1 | 305-2 | 305-4 | CRE1 | CRE3

MIT's emissions comprise primarily indirect (Scope 2) GHG emissions from the use of electricity for lighting, air-conditioning systems and lifts. The electricity is supplied by Tuas Power Supply Pte. Ltd and SP Group. Direct (Scope 1) GHG emissions are from diesel generators, which are mainly used for backup energy generation at MIT's properties.

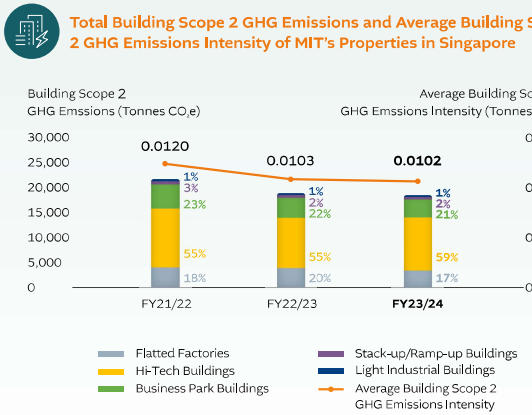
Total Energy Usage and Intensity of MIT's Properties in Singapore

Total Building Electricity Consumption and Average Building Electricity Intensity of MIT's Properties in Singapore



As a result of its energy reduction initiatives, the total building electricity consumption of MIT's properties was 44.1 million kWh in FY23/24, a 3.0% decrease from the previous year. Correspondingly, the average building electricity intensity fell year-on-year by 2.0%. Of the total building electricity consumption, 4.2% (1.8 million kWh) was solar power generated from MIT's onsite installations.

Total Building Scope 2 GHG Emissions and Average Building Scope 2 GHG Emissions Intensity of MIT's Properties in Singapore



In FY23/24, the total building Scope 2 GHG emissions of MIT's properties were 17,627 tonnes CO_2e, a 2.0% decrease from FY22/23. The average building Scope 2 GHG emissions intensity fell year-on-year by 0.9%.

The decrease in Scope 2 GHG emissions was due to the lower energy consumption and higher use of renewable energy.

Total Energy Usage and Intensity of MIT's Properties in North America

	Unit of Measure	FY21/22	FY22/23	FY23/24
Reported MIT Properties	Number of properties	6	5	**5**
NLA	Square metre (m^2)	177,391	173,685	**173,685**
Total building electricity consumption	Million kilowatt hours (kWh)	143.6	174.5	**174.3**
Average building electricity intensity	kWh/m^2	1,042.8	1,239.2	**1,230.3**
Total building Scope 2 GHG emissions	Tonnes of carbon dioxide equivalent (CO_2e)	53,354	64,774	**65,225**
Average building Scope 2 GHG emission intensity	Tonnes CO_2e/m^2	0.391	0.462	**0.462**

The Manager holds operational control over five properties in North America. These five properties are data centres. They generally require a large amount of electricity to run and cool the servers and are more energy intensive compared to other property segments within MIT's portfolio.

Task Force on Climate-Related Financial Disclosures (TCFD) 201-2

The Manager recognises the significant impact of climate-related risks and focuses on improving the resilience of MIT's properties against such risks. To give stakeholders insight into the processes and progress on measuring and managing climate-related risks and opportunities that are relevant to MIT's business, the Manager has adopted the recommendations of the TCFD and will continue to enhance the disclosures, where practicable. This section outlines the TCFD disclosures in the four key areas of governance, strategy, risk management and metrics and targets.

Since its inaugural climate risk assessment in FY21/22, the Manager has made progress in enhancing MIT's climate-related disclosures. During the financial year, the Manager completed the onboarding of a third-party climate risk analysis tool to support monitoring and reporting of quantitative climate scenario analysis. Shorter time horizons of 2030 and 2040 were selected for scenario analysis compared to the previous financial year to increase accuracy of climate risk assessment and to improve climate risk management and strategic planning process.

Governance

The Board is responsible for overseeing the governance of risks and determines the overall risk strategy and risk governance, including climate-related risks and opportunities. The Board is supported by the AC and is responsible for reviewing the adequacy and effectiveness of internal control and risk management systems, including climate-related risks. The SSC, which comprises representatives from senior management teams of the Sponsor and the Manager, provides oversight on the ongoing monitoring of climate-related risks and opportunities. Please refer to page 3 for more information on MIT's sustainability governance structure.

The Board of Directors and Corporate Governance sections in MIT's Annual Report set out the composition of the Board and the committees and the Directors' broad range of skills and experience. The Board and the Management have undergone training on sustainability matters, including climate-related topics. As part of the integration of ESG performance into remuneration, employees of the Manager and the Property Manager are required to complete at least 1 hour of ESG training, including climate-related topics.

Board and AC

- Oversees MIT's sustainability strategy and risk strategy
- Approves the risk appetite for material risks and oversees the management of material risks
- Ensures sound risk management and internal control practices are in place

Sustainability Steering Committee (SSC)

- Drives MIT's sustainability strategy and integrates it with business objectives
- Assesses and monitors the implementation of the Mapletree Group's sustainability policies, targets and initiatives

Sustainability Working Committee (SWC)

- Supports the SSC and the Group Sustainability Department in the management and execution of the sustainability strategy, policies, processes and initiatives across the organisation
- Acts as "Sustainability Champions" to help embed sustainability culture within different business units and functional groups
- Comprises stakeholders from across different business units and functional groups

Strategy

Climate change has the potential for significant long-term impact on the real estate sector, which could materialise in the form of physical risk and transition risk. Physical risk arises from the impact of weather events and long-term or widespread environmental changes, which can include increased severity of extreme weather events such as floods and rising mean temperatures, sea levels and weather patterns. Transition risk emerges from the process of shifts towards a low carbon economy, which can include regulatory changes, disruptive technological developments and shifts in consumer and investor preferences.

Methodology, Limitations, and Assumptions

Climate risk assessment is an emerging practice with inherent uncertainty. The Manager's approach takes into account currently available methodology and science. It adopts a third-party climate risk analysis tool, which uses scenario analysis as a key tool to identify the potential impact of climate change on MIT.

The following section contains statements that may constitute "forward-looking statements". Forward-looking statements are not historical facts or statements of current conditions, but they represent only beliefs about future events, which are inherently uncertain and beyond the control of the Manager. These statements are not indicative of MIT's future performance.

There are also limitations with respect to the use of the third-party climate risk analysis tool. It is a forward-looking model that expresses potential financial impacts under different climate scenarios in the form of a Climate Value-at-Risk ("CVAR") metric. The tool does not consider mitigation and adaption strategies that may be in place or being implemented at the portfolio, property, or country level. In addition, it is presently unable to directly calculate detailed financial impacts such as decrease in asset valuation, increase in insurance premium or energy price and loss of revenue due to business disruption arising from the physical and transition risks of climate change.

Climate Scenario Analysis and Time Horizons

The Intergovernmental Panel on Climate Change identified potential future scenarios for climate change, which describes a plausible trajectory for future levels of GHG emissions. The Manager has considered both 1.5°C (net zero) and 3°C (business-as-usual) scenarios for both physical and transition risks across the time horizons of 2030 and 2040.

The following indicators were observed to be relevant to MIT's portfolio when assessing the magnitude of each type of risk:

- *Acute physical risk* arising from extreme weather events may result in building damage. This presents financial impacts through the increase in capital expenditures due to higher cost of repairing damaged assets and constructing disaster-resilient infrastructure. The metric of portfolio valuation would be a relevant financial indicator.
- *Chronic physical risk* is associated with extended periods of unseasonably warm or cold temperatures. This presents financial impacts through increased operational expenditure due to additional cooling and heating costs. The metric of net property income would be a relevant financial indicator.
- *Transition risk* focuses on the projected carbon pricing, which curbs GHG emissions by placing a fee on emitting and/or offering an incentive for emitting less. This presents financial impacts through the increase in operational expenditures. Utility costs are anticipated to increase as utility companies pass on the carbon tax to end users in the form of higher electricity tariffs. The metric of net property income would be a relevant financial indicator.

	1.5°C (Net Zero)	3°C (Business-As-Usual)
Physical risk scenarios	1.5°C	3°C
Transition risk scenarios		
Geographical coverage	All MIT's properties in Singapore, the United States and Canada[8]	
Time horizons	2030 and 2040	

The risk levels of the financial indicators are aligned with the Mapletree Group's Enterprise Risk Management Framework.

Analysis

MIT's strategy remains robust in the face of a changing climate, especially when taking into account current and future risk mitigation plans.

The proportion of transition risk reduces and physical risk increases in 3°C scenario. The model assumes that in such a scenario, carbon pricing is not widely implemented, which will lead to low transition risk costs. The reverse is true in a 1.5°C scenario. Here, the model assumes that carbon pricing is extensively used, which will result in higher transition costs. To be conservative in terms of financial impacts, the published analysis for physical risk is based on 3°C, while transition risk is based on 1.5°C.

[8] Based on MIT's portfolio as at 31 March 2023, which excluded the Osaka Data Centre that was acquired on 28 September 2023.

From the assessment, there is low risk associated with physical and transition risks in 2030 and 2040. Transition risk (specifically regulatory risk) manifests in the form of increased carbon price, which translates to higher utility costs. Considering the areas where MIT has direct responsibility for utility costs, the risk levels are low. Meanwhile, taken as a whole, including tenant-controlled areas, the risk levels are slightly elevated.

Physical Risks

Risk Type	Risk Description	Risk Level 3°C		Potential Impact	Mitigating and Adaptation Measures
		2030	2040		
Coastal flooding	Associated with an increasing or decreasing intensity and frequency of sea water flooding in coastal areas	🟢	🟢	· Losses arising from cost of repairing damaged assets and business disruption and higher insurance cost for properties in high flood risk zones · Increase in capital expenditures to construct coastal defense and flood control infrastructure	· Ground floor units at some of MIT's properties are more than 1 metre above ground due to loading/unloading requirements · Pumps are available at some of MIT's properties to remove large volume of water · Flooding risks are part of the ESG due diligence for new investments, especially data centres · Onsite property management colleagues actively monitor climate conditions and implement flood control measures where appropriate
Fluvial flooding	Associated with an increasing or decreasing intensity and frequency of river flooding	🟢	🟢		
Cyclone	Associated with an increasing or decreasing intensity and frequency of tropical cyclones due to high wind speeds	🟢	🟢	· Destruction of built and natural environment for properties in cyclone-prone areas	
Wildfire	Associated with an increasing intensity and frequency of wildfires	🟢	🟢	· Losses arising from cost of repairing damaged assets and business disruption as well as higher insurance cost due to increasing intensity and frequency of wildfires · Destruction of built and natural environment	· Regular review of business continuity plans · Installation of fire-retardant materials
Extreme cold	Associated with an increasing or decreasing number of days with extreme cold (< 0 to -10°C)	🟢	🟢	· Reduce durability of building materials · Affect indoor climate, which affect thermal comfort and pose health and safety risks for occupants · Increase operating costs from the increased usage of air conditioning and cooling systems	· Establish health and safety protocols to adjust working arrangements · Ensure retrofitting of energy-efficient heating, ventilation, and air-conditioning units · Design and construct high-performance building envelopes for new developments
Extreme heat	Associated with an increasing or decreasing number of days with extreme heat (> 30 to 35°C)	🟢	🟢		

Transition Risk[9]

Risk Type	Risk Description	Risk Level 1.5°C		Potential Impact	Mitigating and Adaptation Measures
		2030	2040		
Increase in carbon price	Carbon emissions priced through taxation or emissions trading schemes			· Lead to rising operating costs as businesses account for both direct and indirect carbon tax arising from energy consumption	· Reduce energy consumption, improve energy efficiency and increase renewable energy adoption · Monthly monitoring and evaluation of utility consumption patterns · Assess the impact of carbon tax on standing and new investments
	Sensitivity level				
	Whole building	🟢	🟡		
	Landlord-controlled areas	🟢	🟢		

Risk Level 🟢 Low 🟡 Moderate 🟠 Major 🔴 Severe

[9] Includes the risk levels for whole building and landlord-controlled areas. The analysis assumed that part of the utility costs of landlord-controlled areas are borne by MIT.

The Manager further explored additional transition risks in a qualitative manner as the third-party climate risk analysis tool is not able to assess the magnitude of such risks to MIT.

Risk Type	Risk Description	Potential Impact	Mitigating and Adaptation Measures
Mandates and regulations on existing products and services	Associated with the increasing number of new regulations from governments and regulators to combat climate change	· Increase in retrofitting costs and capital expenditures to upgrade buildings to meet new standards · Non-compliance may lead to financial penalties	· Regular assessment of sustainable building certifications in order to align with applicable regulations · Screen all new investments to assess alignment with applicable regulations
Changes in stakeholder expectations	Associated with the shift of consumer preference towards greener buildings	· Failure to meet stakeholder expectations may lead to reputational loss, reduced ability to access capital from investors and loss of clients	· Regular assessment of sustainable building certifications in order to align with applicable regulations · Actively engage stakeholders and incorporate their feedback where relevant and feasible
Environmental reporting obligations	More stringent regulations around climate reporting	· Incur additional costs from building up sufficient internal capacity and capabilities · Violations of mandatory regulations could lead to potential financial penalties and reputational loss	· Monitor relevant regulatory requirements · Offer opportunities for employees to attend relevant training courses
Exposure to climate litigation	Liability risks arise from failure to disclose climate-related risks and to mitigate GHG emissions, non-compliance with legal and regulatory expectations and climate greenwashing	· Incur costs of litigation such as financial penalties, claim for damages and reputational loss	· Monitor relevant regulatory requirements · Carry out ESG due diligence for new investments, with appropriate ESG specific warranties entered into and disclosure given when required

Risk management

Due to the nascency of climate scenario analysis, it is important to continue reviewing the approach when evaluating climate-related risks.

The Manager is responsible for the management of material risks. It adopts the Enterprise Risk Management Framework, which has a top-down and bottom-up risk review process to systematically identify and assess material risks, including climate-related risks. The Enterprise Risk Management Framework is implemented across the Mapletree Group. To ensure comprehensive understanding and appreciation of the risks and the practical challenges in implementing mitigation plans, the Manager engages various stakeholder groups to obtain their perspectives and insights.

To mitigate physical risks in MIT's portfolio, the Manager will carry out physical risk assessments prior to new asset acquisitions.

For existing assets identified with major and severe physical risks, the Manager will monitor national adaptation measures closely. There is an inherent limitation to what can be done for each individual asset in such cases. For example, if flood mitigation solutions are implemented only at an asset level, the surrounding areas would remain vulnerable to flooding in the event of a serious coastal flooding and ultimately render the property inaccessible.

To mitigate transition risk in the portfolio, the Manager is in the process of implementing an environmental data management system to collect, monitor and establish its energy and carbon baseline.

The Manager continuously aims to decrease its carbon footprint through asset enhancement initiatives that improve building energy efficiency and ensure alignment with local building regulations as far as possible. Adopting renewable energy sources is another key focus area in lowering MIT's carbon emissions.

Metrics and targets

The Manager is taking active steps towards decarbonisation. By 2025, it aims to have an intermediate carbon emissions reduction target that will become a key metric for measuring its progress in the decarbonisation journey.

Meanwhile, the Manager has identified the following metrics relevant to climate-related risks:

- Total energy consumption and associated Scope 1, Scope 2 and Scope 3 GHG emissions
- Total solar energy generating capacity

The Manager has also set targets and reports the performance against them in the relevant sections of MIT's Sustainability Report. It is working to improve engagement throughout its value chain, in order to obtain Scope 3 GHG emissions data. It aims to disclose Scope 3 GHG emissions once the relevant information is made available.

The Manager is committed to tracking MIT's progress towards achieving the goal of net zero carbon emissions by 2050. Through ongoing monitoring and reporting, the Manager can identify areas for improvement and take necessary steps to mitigate climate-related risks.

Quality, Sustainable Products and Services

Why is this important? 3-3

High-quality properties improve the health and well-being of occupants. This will in turn help to raise their productivity and satisfaction. In addition, improvements in the environmental performance of the properties mitigate their negative environmental impact and safeguard the well-being of the larger community in the long term.

Sustainable building certifications also serve as an effective measure of asset quality. They help to attract tenants who are increasingly seeking green-certified premises as part of their commitment to sustainability. By leveraging technologies and innovation, the Manager seeks to align MIT's portfolio with changing clients' requirements for environmental friendly features.

Management approach CRE8 416-1

The Manager and the Property Manager recognise that green building certifications underscore their commitment to more environmentally friendly buildings. Therefore, the Manager and the Property Manager strive to integrate sustainability into the development, design and operations of MIT's properties. These are aligned with the Singapore Green Plan 2030 and the Mapletree Group's commitment to Net Zero by 2050.

The Property Manager organises monthly reviews of ongoing applications or renewals of green building certifications for MIT's properties in Singapore. Properties with centralised air-conditioning systems are prioritised to achieve BCA Green Mark certifications as air-conditioning accounts for a high proportion of total energy consumption in buildings.

During the financial year, MIT obtained BCA Green Mark Gold recertifications of The Signature, K&S Corporate Headquarters, 18 Tai Seng and 978 & 988 Toa Payoh North in Singapore.

Green Building Certifications 18 properties		**Energy Ratings** 6 properties	
BCA Green Mark	13 properties (Grouped into 10 property clusters)	Energy Star	6 properties
LEED	4 properties		
Green Globes	1 property		

Please refer to the table on page 36 for the list of sustainable building certifications.

Sustainable Building Certifications

As at 31 March 2024

31% of Portfolio (by AUM)

24% of Portfolio (by NLA)

Tenant outreach for green buildings

All tenants of BCA Green Mark buildings receive a Green Building Guide. The guide contains action plans for waste recycling and energy and water conservation. The Manager aims to achieve BCA Green Mark ratings and higher for MIT's new developments. This is aligned with the Building and Construction Authority's goal for 80% of buildings in Singapore to meet Green Mark standards by 2030.

Sustainability clauses for leases

The Manager introduced sustainability clauses for new and renewal leases in Hi-Tech Buildings and Business Park Buildings in FY22/23. Following the success of this initiative, the Manager set an ambitious target for FY23/24 of introducing sustainability clauses for all new and renewal leases in both the Singapore and North American Portfolios.

These sustainability clauses pertain to the sharing of environmental data, seeking cooperation from tenants in achieving building performance ratings and encouraging tenants' participation in environmental initiatives.

To reinforce its commitment to sustainable operations, the Manager has started to actively track the progress of implementing sustainability clauses and established a new target to achieve 35% of leases with sustainability clauses in the Singapore Portfolio in FY24/25.

CASE STUDY

Recertifications of BCA Green Mark Gold Awards

In FY23/24, The Signature, K&S Corporate Headquarters, 18 Tai Seng and 978 & 988 Toa Payoh North were recertified with the BCA Green Mark Gold Awards in recognition of their environmentally friendly features. The four properties were also certified as "Water Efficient Buildings". Some of the key environmentally friendly features of these properties are:

The Signature

- Energy-efficient district cooling system with an efficiency of 0.67 kilowatt per refrigeration ton ("kW/RT")
- Use of T5 lamps in common areas and motion sensors in staircases and motion detectors in escalators
- Urban greenery installations on the rooftop

K&S Corporate Headquarters

- Rooftop solar installation with 446.5 kWp generating capacity
- Use of NEWater for cooling tower and toilet flushing system
- Carbon dioxide sensors at tenants' premises to maintain air quality

18 Tai Seng

- Energy-efficient chiller plant with total system efficiency of less than 0.9 kW/RT
- Increased use of LED lights at common areas
- Variable speed controls for chilled water pumps and cooling tower fans

978 & 988 Toa Payoh North

- Energy-efficient light fittings such as LED lights, high frequency electronic ballasts and compact fluorescent lamps in common areas
- Motion sensors in toilets and stairwells
- Energy-efficient centralised air-conditioning system with total system efficiency of 0.88 kW/RT

Tenant Spotlight

SPOTLIGHT

DSV Air & Sea Singapore Pte Ltd ("DSV")

DSV is a tenant at MIT's latest redevelopment project, Mapletree Hi-Tech Park @ Kallang Way. 161 and 163 Kallang Way have been awarded the BCA Green Mark Platinum Award, a green building rating system designed to evaluate a building's environmental impact and performance. Mr Gino Marzola, Managing Director (Singapore & Malaysia) of DSV, shares about the significance of leasing space in a BCA Green Mark Platinum certified building and key sustainability initiatives implemented in its office at 163 Kallang Way.

BCA GREEN MARK

"The BCA Green Mark Platinum certification is a significant consideration to us in leasing the space at 163 Kallang Way, as DSV has strict requirements for our buildings' sustainability performance. We require new buildings to achieve "gold" certification under at least one of the DGNB, LEED, or BREAM standards. The BCA Green Mark Platinum certification, being a reputable and stringent environmental benchmark, would fit DSV's sustainability framework, aligning with our policy of reducing CO_2 emissions and commitment to environmental stewardship.

We are dedicated to reducing our ecological footprint as the health of our business is inextricably linked to the health of our planet."

Mr Gino Marzola
Managing Director (Singapore & Malaysia), DSV

Key sustainability initiatives in DSV's office at 163 Kallang Way

Reduce	Reuse	Recycle
• Installed energy efficient and motion-sensored LED lightings to reduce energy consumption • Implemented a 'Print only when necessary' policy to reduce paper wastage • Switched off all office appliances after working hours to conserve energy	• Provided reusable ceramic mugs to reduce the usage of paper cups • Restricted the use of plastic bottles in the office to encourage the usage of ceramic mugs	• Provided waste bins at the pantry for the segregation of the different waste types • Provided dedicated bins to recycle waste paper • Engaged a licensed e-waste disposal company to dispose unwanted IT equipment

Staff from Mapletree and DSV participating in the tree planting initiative

Tree planting initiative

More than 120 employees and Board Members from Mapletree, and tenants at Mapletree Hi-Tech Park @ Kallang Way participated in the tree planting initiative on 13 April 2023. The initiative saw 80 trees being planted within the property. This is in line with the Mapletree Group's commitment to plant at least 100,000 trees by 2030 across its assets, as well as in the communities it operates in.

Ms Chua Lay Har and Ms Agnes Tam from DSV also participated in the initiative in support of MIT's efforts to manage its carbon footprint and provide a greener, pleasant and more sustainable living environment for tenants and visitors of the park.

Sustainable features of Mapletree Hi-Tech Park @ Kallang Way

- Motion-activated LED lights at staircases and toilets
- Lifts with regenerative drives, which will save up to 20% of the lifts' total energy consumption
- Efficient water fittings rated by PUB
- Provision of smart remote monitoring to detect water leakages
- Over 10,000 shrubs and 296 trees in the precinct
- Provision of electric vehicle charging stations and sheltered bicycle lots
- Provision of an Ultraviolet Germicidal Irradiation system that helps to control airborne pathogens at air handling units' filtration

Water Management

Why is this important? 3-3

Water management is a top priority for the Manager and the Property Manager, especially in the context of global water scarcity. This issue is pertinent to MIT due to the unique composition and geographical coverage of its portfolio. Data centres comprise a significant portion of MIT's portfolio, which have considerable water consumption because of the cooling systems that prevent heat buildup from the data servers. Some of these data centres are in water-stressed regions, including Singapore and certain parts of the United States.

Given the heightened importance of water conservation in these regions, the Manager and the Property Manager are dedicated to improving the overall water management across MIT's properties. This involves the monitoring of water withdrawal and efforts to reduce water consumption as well as exploring alternative sources. Reducing water usage in MIT's properties avoids putting strain on local water resources and mitigates the risk of reputational damage from irresponsible consumption.

Management approach 303-1

MIT's tenants are the primary users of water at its properties, especially in data centres, where cooling systems such as chillers, cooling towers, and air conditioning systems rely on water to maintain the optimal temperature of the servers. Water usage under the direct operational control of the Manager is limited to the common areas, such as toilets and pantries, and chiller plant systems. Due to the nature of MIT's business in leasing and managing industrial properties, MIT's own water consumption is negligible.

The Manager and the Property Manager primarily focus their water management efforts on MIT's Singapore Portfolio, where common areas for the majority of MIT's properties fall under landlord's responsibility. Most of these conservation efforts is focused on improving the performance of chillers and upgrading restrooms. Several water-saving initiatives such as the use of low-flush water systems, automatic sensor faucets, and water-efficient taps have been implemented across MIT's properties.

The Property Manager has also adopted suggested water flow rates across all MIT properties to improve water efficiency and limit water extraction. It further conducts regular inspections of water supply facilities and carries out timely repairs and maintenance to resolve water leakage issues.

In FY23/24, the Manager has completed the upgrading of toilets at the Toa Payoh North 2 and 3 Clusters with the objective of reducing water consumption through the implementation of the abovementioned water-saving initiatives.

54 properties across 35 property clusters in Singapore have received the PUB Water Efficient Building (Basic) certification.

Water conservation campaigns and activities

The Manager recognises that water conservation is a shared responsibility and actively engages its tenant community to promote water conservation habits. In FY23/24, the Manager stepped up these efforts by spreading greater awareness on the importance of water conservation and sharing best practices for reducing water use in their day-to-day operations.

CASE STUDY



Water management initiatives such as seminar and roadshows were organised to engage MIT's tenants on water conservation.

Tenant Engagement on Water Conservation

The Manager and the Property Manager provide tenants with the knowledge and tools to making environmentally conscious decisions. During the financial year, the Manager and the Property Manager organised several water management initiatives for MIT's tenants in Singapore. One of the initiatives was the in-person sustainability event, "Unlock Sustainable Growth through Government Initiatives" on 25 October 2023. Attendees learnt about the practical application of water management measures at home and in the workplace from an industry expert from PUB.

In addition, the Manager and the Property Manager partnered with PUB to organise roadshows on water conservation at 1 Depot Close and 30A Kallang Place on 7 and 8 December 2023 respectively. A video and standees featuring water conservation tips were displayed at the roadshows. Tenants could also participate in a quiz on fun facts about water usage. The quiz aimed to promote water conservation habits. The Manager and the Property Manager sent a poster on household water consumption and water conservation tips to tenants and placed mirror stickers with messages on water conservation in restrooms across MIT's properties in Singapore.


Event booths on water conservation were held at 18 Tai Seng (left) and The Strategy (right) in support of the Singapore World Water Day.

Singapore World Water Day

In commemoration of Singapore World Water Day, the Manager and the Property Manager organised outreach activities to educate tenants in Singapore about the importance of water conservation. Event booths were set up at 18 Tai Seng and The Strategy on 25 and 26 March 2024 respectively to raise awareness on water conservation.

Tenants and employees dressed in blue to support the cause. The Manager and the Property Manager also marked the event with water-themed quizzes and eco-friendly giveaways.

All non-essential water features at Business Park Building, The Signature were also switched off in support of the event.

Management of water discharge-related impact 303-2

The management of discharge of trade effluent into watercourses in Singapore is regulated under NEA's Environmental Protection and Management (Trade Effluent) Regulations and PUB's Sewerage and Drainage (Trade Effluent) Regulations.

The management of wastewater discharge and effluent guidelines in the United States is regulated under the United States Environmental Protection Agency on an industry-by-industry basis, in accordance with the Clean Water Act and National Pollutant Discharge Elimination System permit program.

The Manager and the Property Manager seek to comply with all relevant regulations, including those listed above, by ensuring that the discharged water meets the allowable limits for trade effluent discharge to a watercourse or controlled watercourse.

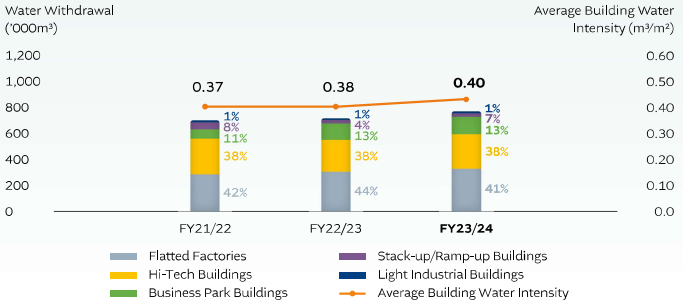
Translating efforts into reductions in water withdrawal 303-3 CRE2

Water withdrawn in MIT's properties in Singapore is provided by PUB. High-grade reclaimed water, also known as NEWater, is used for the cooling towers at Hi-Tech Buildings, K&S Corporate Headquarters and 1 & 1A Depot Close. NEWater represented about 22% of the water used for the Hi-Tech Buildings in FY23/24.

Total Water Withdrawal and Intensity of MIT's Properties in Singapore

In FY23/24, the total volume of water withdrawn from MIT's properties in Singapore was 703,763m³, a 6.1% increase from FY22/23. Correspondingly, the average building water intensity increased by 6.5% from the preceding year. The increase in water withdrawal was attributed to the increase in occupancies and level of activity in MIT's properties in Singapore.

Total Building Water Withdrawal and Average Building Water Intensity of MIT's Properties in Singapore



North America

The five properties under MIT's operational control in North America are all data centres. They generally have significantly higher water withdrawal than other property segments due to the nature of the operations. As a result, the average building water intensity in MIT's North American Portfolio was noticeably higher as compared to the Singapore Portfolio, which comprises multiple property segments.

Total Water Withdrawal and Intensity of MIT's Properties in North America

	Unit of Measure	FY21/22	FY22/23	FY23/24
Reported MIT Properties	Number of properties	5	5	**5**
NLA	Square metre (m²)	172,472	173,685	**173,685**
Total volume of water withdrawal	m³	60,434	84,755	**70,104**
Average building water intensity	m³/m²	0.43	0.61	**0.50**

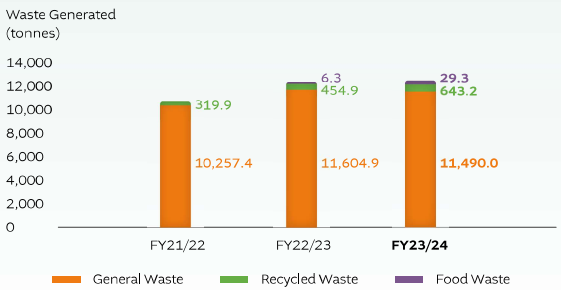
Waste Management

Why is this important? 3-3

Waste management has become an increasingly salient topic as the disposal and recycling of waste in a safe and responsible manner helps to reduce the negative impact on the environment. The materials and waste generated from business operations are often an overlooked opportunity for businesses to move towards a circular and low carbon economy. This also applies to electronic waste or "e-waste" generated by tenants in MIT's industrial properties and data centres.

The Manager strives to dispose its waste in a responsible manner while taking measures to reduce the amount of waste generated. It also aims to institute the necessary infrastructure and practices to enable its tenants to participate in the circular economy. This presents an opportunity to increase tenant satisfaction and improve the quality of MIT's properties.

Total Building Waste Generation



Management approach 306-1 306-2

Most of the waste generated within MIT's properties can be attributed to the activities of its tenants. Therefore, the Manager and the Property Manager are actively working to engage the tenants to reduce the amount of waste generated. All the tenants of the BCA Green Mark buildings are provided with a Green Building Guide. The guide contains detailed action plans for waste recycling and strategies for conserving energy and water.

In addition, recycling bins have been strategically placed in the properties with operational control in Singapore to encourage tenants to practice waste segregation at source. These will facilitate recycling and ensure the proper disposal of waste.

A Waste Management Plan is in place to encourage waste reduction practices among employees. These practices include:

- digitising and streamlining of workflows to reduce the printing of documents;
- ceasing the provision of single-use water bottles in meeting rooms and encouraging employees to bring their own reusable bottles;
- providing non-disposable glassware and crockery in pantries and meeting rooms; and
- placing electronic waste recycling bins at accessible locations.

The Property Manager consolidates information of waste generated within MIT's properties in Singapore and submits them annually to NEA. This allows the Property Manager to monitor the effectiveness of its waste reduction initiatives and to improve them, where necessary.

Translating efforts into a reduction in waste generation 306-3 306-4 306-5

In FY23/24, MIT's properties in Singapore[10] generated a total of 12,162.5 tonnes of waste, all of which are non-hazardous. Out of the total waste produced, 6% was recycled while the remaining majority (94%) was incinerated at waste-to-energy incineration facilities.

SPOTLIGHT

Educational Campaign to Improve Utilisation of Food Digester

As part of the food waste management strategy, the Manager and the Property Manager installed two food waste recycling machines at MIT's food factory, Kampong Ampat Cluster in FY22/23. The fully enclosed automatic digesting machines digest most food waste matter within 24 hours in the presence of water, oxygen and microorganisms. Grey water is produced as a by-product for safe discharge into the sewage system. The on-site treatment of food waste reduces the need to send food waste for incineration.

During the reporting year, the Manager and the Property Manager stepped up efforts to raise awareness on the importance and benefits of food waste segregation for recycling. They organised regular on-site trainings on how to operate the food waste recycling machines. One-on-one training sessions with tenants were also held at their premises to share the types of food that can or cannot be deposited in the machines. The Manager and the Property Manager also disseminated information about the food waste recycling machines via email and posters placed at the common areas.

[10] The waste generation performance data excluded data from 2A Changi North Street 2, 26 Woodlands Loop, 7 Tai Seng Drive and Mapletree Sunview 1 as they were under the tenants' management.