Of Course, Sustainability Matters!

FY2023
ITE Environmental Sustainability Disclosures

Welcome to **ITE's FY2023 Environmental Sustainability Disclosures.** This report builds on our first Environmental Sustainability Disclosures published for FY2022 [Read More].

Of Course, Sustainability Matters! There is a sense of urgency and commitment, as we continue to do our part to build a sustainable future for Singapore and the world.

With seven years to go towards realising the Singapore Green Plan 2030, how are we progressing in this sustainability journey? Our vision to achieve net-zero emissions by 2045 seems so far away, why should we get concerned now?

In ITE, we are keenly aware that our work begins today, in order for us to secure a brighter future for our future generations.

Photo: MOF

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Our Commitment remains...

Last year, the ITE Board and Senior Management have articulated their commitment to sustainability. These continue to hold true and guide us in our actions in FY2023.

We have a responsibility to be faithful stewards to safeguard the planet for future generations.

Singapore has committed to achieving net zero emissions by 2050. Every institution, industry, business and individual have the responsibility to embrace sustainability and take steps to decarbonize their systems and processes. ITE, as an education institution, is taking on multiple roles of educating the students and campus users to adopt sustainability practices, equipping students with new skills for emerging green jobs and role-modelling sustainable practices in our buildings, work processes and culture.

Every step forward reflects our commitment to ensure future generations will continue to thrive.

Andrew Chong
Chairman
ITE Board of Governors

ITE's core purpose is to equip our students and learners with knowledge, competencies and dispositions that will enable them to chart their future. To fulfill this purpose, we need to respond to the challenges that impact and shape the future. One such challenge is climate change.

ITE is committed to instilling sustainability values in the design of our buildings, the way we work, the resources we consume and galvanising the ITE community to make a concerted effort to consciously reduce their carbon footprint, reduce waste and be consciously efficient in their use of electricity and water.

We will also review and revise our curriculum to include green topics and skills so as to ensure our students are well equipped for the green economy. ITE staff and students will also work with the community to advocate sustainability messages and collaborate with them on green projects and initiatives.

Low Khah Gek
Chief Executive Officer

Our Sustainability Structure...

We believe in collective ownership of sustainability and have organised ourselves to work as one to achieve our sustainability ambitions, along with active ground-up initiatives and efforts by staff and students.

ITE Board of Governors — Overall strategy, targets, performance review and disclosures

CEO
Ms Low Khah Gek

Deputy CEO/HQ Ang Kiam Wee	Deputy CEO/HQ Heng Guan Teck	Deputy CEO/HQ Goh Mong Song	Principal ITE College Central (CC) Suresh Natarajan	Principal ITE College East (CE) Yek Tiew Ming	Principal ITE College West (CW) Alice Seow
Green Curriculum Energy Efficiency Low Carbon Transition Water Efficiency & Recovery Carbon Footprint Measurement	Green Procurement Staff Capability Development Staff Culture Green Information Technology	Sustainability Reporting and Assurance Industry Partnership for Green Skills, Sustainability Strategies	*Lead, drive and support green staff and student programmes, activities and culture at colleges Strive towards achieving super low-energy building Promote culture among staff and students towards reducing carbon footprint Raise personal awareness, understanding and ownership Collaborate with community to initiate and advocate sustainability projects and messages		

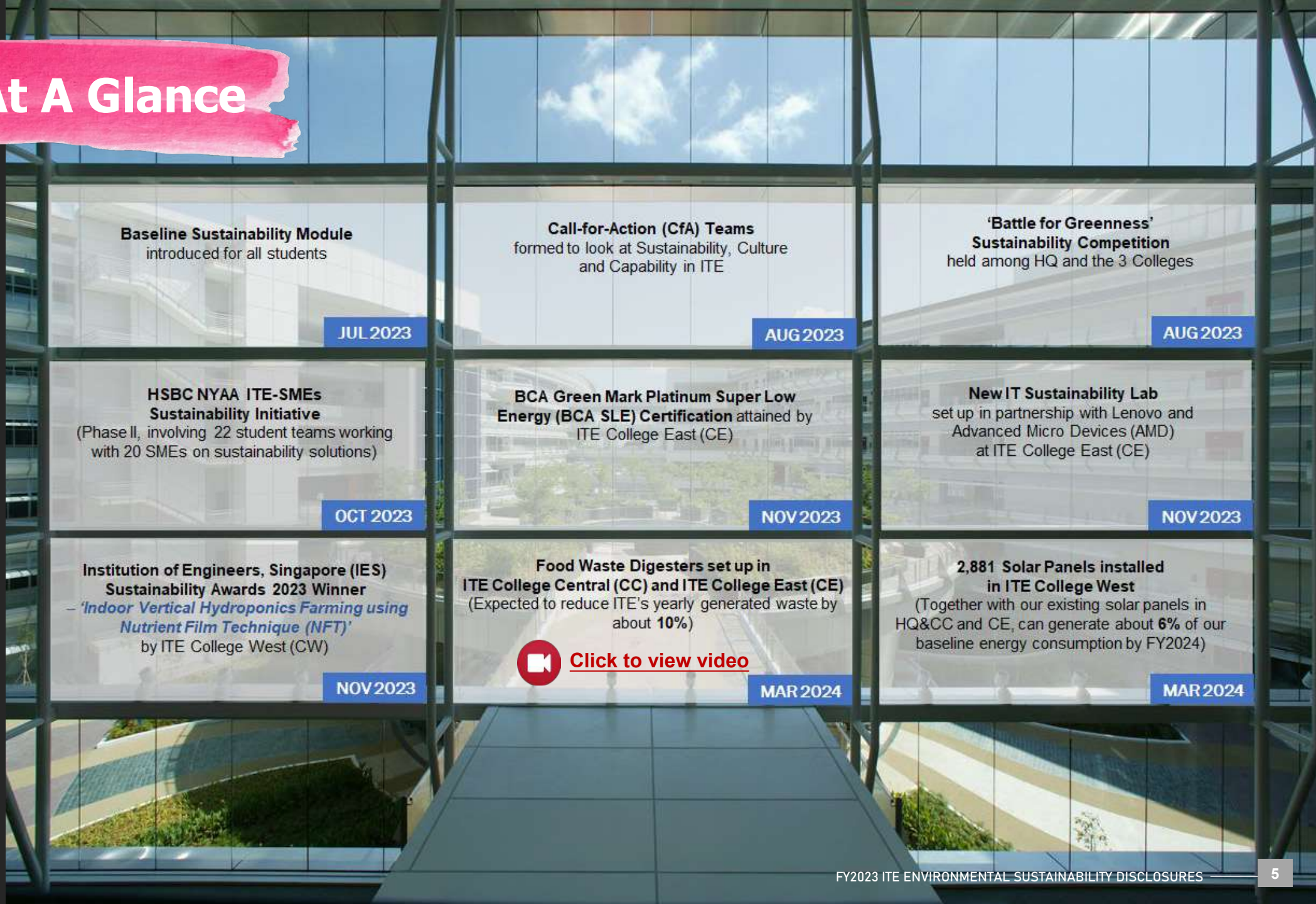
Develop strategies, track indicators, set targets, review and mitigate risk, support learning, lead communications, drive actions

* The existing Environmental Sustainability Initiatives (ESI) Committee, chaired by a Director and comprising members from HQ and Colleges, helps to drive and coordinate ITE-wide sustainability efforts among staff and students.

FY2023 At A Glance

A year may not be long, but a lot can still be done.

Some highlights of our achievements in FY2023, including what we have done for and with students, staff, industry and the community, are summarised here.



Baseline Sustainability Module
introduced for all students

JUL 2023

Call-for-Action (CfA) Teams
formed to look at Sustainability, Culture and Capability in ITE

AUG 2023

'Battle for Greenness' Sustainability Competition
held among HQ and the 3 Colleges

AUG 2023

HSBC NYAA ITE-SMEs Sustainability Initiative
(Phase II, involving 22 student teams working with 20 SMEs on sustainability solutions)

OCT 2023

BCA Green Mark Platinum Super Low Energy (BCA SLE) Certification attained by ITE College East (CE)

NOV 2023

New IT Sustainability Lab
set up in partnership with Lenovo and Advanced Micro Devices (AMD) at ITE College East (CE)

NOV 2023

Institution of Engineers, Singapore (IES) Sustainability Awards 2023 Winner
– *'Indoor Vertical Hydroponics Farming using Nutrient Film Technique (NFT)'*
by ITE College West (CW)

NOV 2023

Food Waste Digesters set up in ITE College Central (CC) and ITE College East (CE)
(Expected to reduce ITE's yearly generated waste by about **10%**)

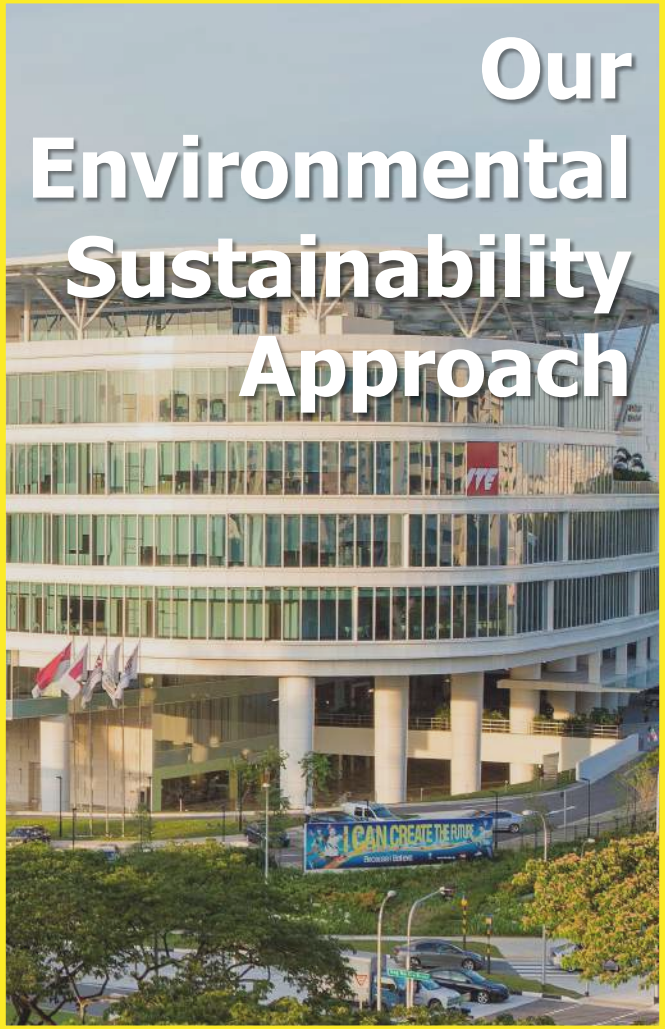
Click to view video

MAR 2024

2,881 Solar Panels installed in ITE College West
(Together with our existing solar panels in HQ&CC and CE, can generate about **6%** of our baseline energy consumption by FY2024)

MAR 2024

Our Environmental Sustainability Approach

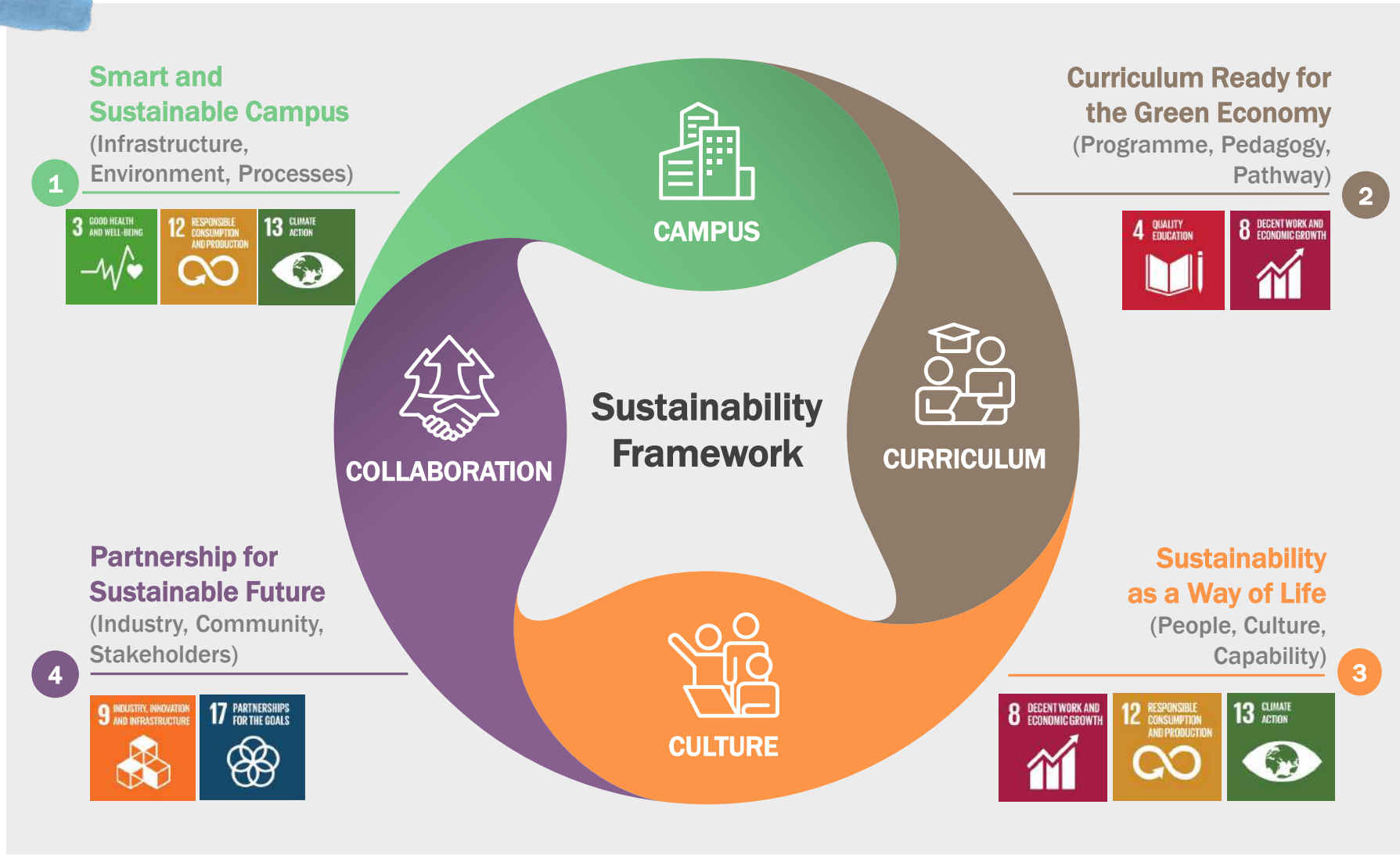


Our Sustainability Approach...

Our **4Cs (Campus, Curriculum, Culture, Collaboration) Sustainability Framework** continues to guide us in our 'whole-of-community' approach towards sustainability. Staff, students, industry, community and stakeholders are integral parts of this framework, as we co-create and co-deliver impact and outcomes.

As shared in the FY2022 report, we have prioritised and aligned ourselves with **seven of the UN Sustainable Development Goals** that are the most relevant to ITE.

We are pleased to share our progress and achievements in FY2023, in each of the 4Cs, in the ensuing segments.



Campus

Greening Our Campuses – Multi-pronged Approach

Our campuses are not just buildings, but green laboratories where we continually innovate to reduce our carbon footprint. At the same time, they also serve as an important avenue for us to impart sustainability skills and values to our students.

To ensure climate-responsiveness and resource-efficiency of our campuses, we ramped up the use of solar energy as an important renewable energy source. On top of the existing 786 solar panels in HQ & CC, and 684 solar panels at CE, **we installed another 2,881 panels in CW** in FY2023. By 2024, all ITE's campuses are expected to generate about 2,595 mWh per year from 4,351 solar panels, enough to power approximately 530 HDB 5-room flats for a year. This represents about 6% of energy consumed in our baseline period.

We have also started work on our plans to:

- **Increase Water Efficiency** by working towards attaining the **ISO46001:2019 Water Efficiency Certification** by 2025, building on our current status as a Water Efficient Building certified by PUB.
- **Install Electric Vehicle (EV) charging stations** across our Campuses by 2024, to support the use of a cleaner energy resource.
- **Downsize ITE Data Centers** to significantly reduce electricity consumption, by leveraging on Cloud service providers (CSPs) with a strong sustainability focus like Microsoft. Currently, **80%** of the systems have been migrated to cloud, above the Government KPI of 70%. By streamlining our systems and adopting Software-as-a-Service (SaaS) where possible, we will be able to significantly downsize our existing data centers at each College by 2027.

To facilitate the monitoring of our resource use, we have stepped up the use of analytics and sensors across our premises. This includes developing Sustainability Dashboards to keep track of Electricity, Water Utilisation and Waste generated across the three Colleges, as well as installation of sensors and power meters to measure resource use trends. By further leveraging on Internet of Things (IoT) cloud platform, any anomalies can be detected and the relevant process owners alerted to take swift action. In addition, our learning facilities have adopted sustainable maintenance and operations practices to improve efficiency and reduce their environmental impact, such as LED lights, Solar Window Films and Water Efficiency Sanitary Fittings, as well as Zero carbon with solar cells powering batteries for unmanned vehicles such as drones and autonomous guided vehicles (AGV).

One of our key achievements this year was the attainment of the **BCA Green Mark Platinum Super Low Energy (BCA SLE) certification** by CE on 9 Nov 2023, which recognises the college for its best-in-class energy efficiency, the use of onsite and offsite renewable energy and other intelligent energy management strategies.

Some of the new technologies which we have employed include the installation of LED lightings at communal areas and incorporation of energy efficient Air-Handling Units and smart air conditioning systems. Our plan is to achieve BCA SLE for ITE HQ & CC in 2024, and for CW in 2025.

Added Push and Support for Sustainability

This year, one exciting development is the setting up of a new **IT Sustainability Lab** in partnership with Lenovo and Advanced Micro Devices (AMD) focusing on sustainability, decarbonisation and technological innovation. Besides offering students a hands-on learning environment focused on sustainable growth models and carbon emission management, this facility also trains staff and students to refurbish old PCs and supports in the co-design and conduct of new CET CoC courses in areas such as Green Digital Transformation 2.0 for SMEs.

New Sustainability Lab with Lenovo and Advanced Micro Devices in College East

Campus

Green Practices in Green Buildings

Besides the training aspect, our learning facilities also promote sustainable practices and a culture of conservation and giving. For instance, our retail training labs recycle off-season clothing to heighten awareness of sustainable retail, and collect off-season clothing from industry partners for use in training. Our various gardening and indoor farming facilities such as Therapeutic Urban Garden, Industrial IoT Center, Vertical Farming and Hydroponics Farms produce fresh vegetables of which a portion are donated to our community partners.

To encourage a campus-wide green culture and spur bottoms-up environmental effort, we have also set up sustainability corners in the Colleges. For instance, the Sustainability Corner at CE is a designated physical area on campus to encourage zero waste through recirculation of items, and it features the Joy of Giving counter-top for donated items, Alba E-Waste Bin, Cloop Textile Recycling Bin and Food Treasure Box for donated food items.

Through our collaborations with external partners such as Alba E-Waste and Cloop, we also provide easy access to disposal and recycling of various materials, ranging from textiles to e-waste.

Sustainability Hub in College East

In alignment with our key emphasis to enhance waste management and reduce wastage, especially food wastage, we have installed on-site **food waste digesters at ITE CC and ITE CE in Mar 2024.** For every 100 kg of food waste processed by the Food Waste Digestor, 15 kg of solid compost will be produced. The two food digesters are estimated to reduce ITE's yearly waste generation by 84,000kg, about 10% of our baseline figures.

Food Waste Digester at ITE College East

Creating Green Spaces – Campus in Nature!

Besides the hardware and infrastructure, our green touches have also created green spaces that promote physical and mental well-being. For example, the ITE College East's garden won the **Garden of the Year Awards under the Community in Bloom Awards 2023** organised by NParks for achieving excellence in gardening efforts.


Community In Bloom Awards 2023 – ITE Garden of the Year (Oct 23)

Curriculum

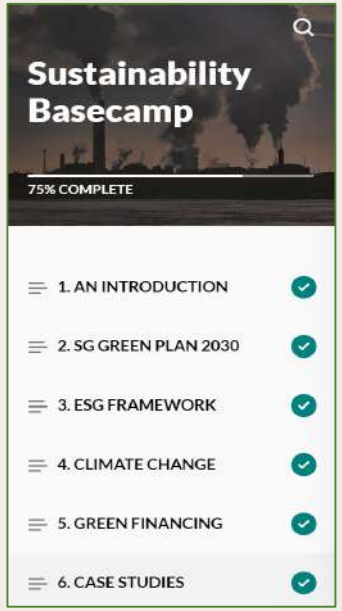
Preparing Students for the Green Economy

To prepare students for the green economy, we continue to review our curriculum to equip our students with not just broad-based knowledge of sustainability, but also sector-specific green skills, including transferable green skills applicable across sectors and job roles.

Under the new 3-year *Higher Nitec* curriculum structure that is being progressively implemented across all courses, all students will undergo two internship stints (typically 3 months in year 2 and 6 months in year 3) where they will also get to learn how companies are incorporating green practices into their business models and operations.

To help our students put their knowledge of sustainability into application, the School of Engineering has also developed a Sustainability Toolkit for students undergoing their internships. This Toolkit includes a checklist and carbon calculator for students to help their internship companies collect their ESG data and conduct sustainability baseline reviews.

In Jul 2023, we introduced a baseline sustainability module, an e-learning module known as Sustainability Basecamp, for all students. Developed in consultation with government agencies and industry leaders that are driving Singapore's sustainability, the Basecamp provides students with foundational understanding in Sustainability Development in Singapore, ESG Framework and Reporting Standards, Climate Change and Green Financing.



Beyond Level 1 baseline sustainability module, we have started work on Level 2 of our Green Curriculum – to infuse trade-specific sustainable applications across all our courses, through new sustainability core and elective modules for each course. In FY23, we have 23 core modules and electives in Sustainability-related areas. Even in existing modules, we have begun to curate company case studies and organise company visits to map out selected companies' sustainability journey and strategies, so that students can understand how their respective trades are being transformed by the green movement. In some courses, Sustainability Playbooks, animation and videos have been created for students and staff to learn real life implementation case studies relating to sustainability.

Learning of Best Sustainability Practices

In designing sustainability contents, we have also started to explore the use of Generative AI to shorten the content development process, while learning from the best in the industry. For example, Gen AI tools have been used to pull resources from the companies' websites and sustainability reports to create curriculum contents that are aligned to our learning outcomes. Some of these companies include Schneider Electric Singapore for its sustainability leadership through digital transformation and next generation automation; Parkroyal Collection Pickering for being an iconic eco-friendly hotel; and Lenovo for its strong global environment management system and its deployment of AI for businesses around the world.

In addition, our students have also started to use Gen AI as part of their sustainability learning and sharing. For example, a group of students used Gen AI (AWS PartyRock) to produce an e-book (see right) to spread the knowledge of sustainability in a fun way.

To enable our students to more effectively make use of Gen AI, we have developed the teaching materials for prompt engineering and will be introducing this for all students from 2024.

Curriculum

Holistic Student Development

Our students also learn to adopt a green mindset and green habits outside of the formal curriculum, through a diverse suite of learning opportunities such as learning journeys, industry projects, recycling and upcycling workshops, community projects, forums and seminars, as well as various green challenges and competitions. Some of the key sustainability-related programmes and events in FY2023 include:

- Inaugural ITE Student Leaders Forum
- Digitalisation & Sustainability Challenge 2023
- Singapore-Shizuoka Agri Food Forum 2023
- Brickland – ITE Green Festival
- Climate Change - Zero Waste Competition 2023

Digitalisation & Sustainability Challenge 2023

Through participation in external events and competitions, our students came up with winning ideas leveraging on technology to generate sustainable solutions. For instance, at the 9th Engineering Innovation Challenge 2023, a team of College West students claimed top spot among 24 other competing teams, for their 'Wearable Climate Control Technology', a vest with wearable air-conditioning to keep wearers cool in hot weather by adapting airflow to the environment.


Engineering Innovation Challenge (EIC) 2023

Some other competitions won by our students include:

- Samsung Solve for Tomorrow Competition (1st Prize)
- 14th Design for Change Singapore Challenge 2023 (Champion in Tertiary Category)
- Siemens Industrial Edge Competition 2023 (Champion)
- Huawei Tech4City Competition 2023 (Champion)

Bite-sized Green Skills for Adult Learners

To cater to the needs of adult learners in the rising green economy, we have expanded our range of Continuing Education and Training (CET) courses, specifically in the areas of green technology and skills. These include two new courses under the National EV Specialist Safety Certification and 3 new joint Certificates of Competency (CoCs) in the areas of carbon reporting; integrated and sustainable reporting; and strategic ESG reporting in collaboration with Deloitte. We are also planning to jointly set up a Centre of Learning for sustainability reporting and carbon accounting with Deloitte.

Our Micro-Learning Courses (MLCs) offer bite-sized on-demand learning for adult learners to delve deeper into specific subject matter. 6 of the 15 new MLCs developed in FY23 relates to sustainability, such as EV Battery Management System and Green Data Centre. The most highly subscribed MLCs for FY23 are largely in the fields of Urban Solutions, Sustainability and Infocomm Technology, with our Sustainable Land Transport System series and The Circular Green Economy series taking the lead.

We will continue to expand our sustainability related CET offerings, working closely with industry partners to identify critical sustainability topics and skills required by the public, and refresh our CET contents to keep them current amidst the rapidly evolving sustainability landscape.

Culture

Sustainability in a Fun Way

To build a culture that embraces sustainability, we encourage ground-up efforts and ideas from staff. In Aug 2023, **three 'Call-for-Action' teams** were formed to look into (1) Gen AI; (2) Green Estates & Curriculum; (3) Culture & Capability . The teams were subsequently invited to share their ideas with staff at the annual ITE Work Plan Seminar held in Feb 2024, which generated active discussion among staff participants on new possibilities ahead. Arising from this, a GreenITE Power Apps will be launched to drive and incentivise staff participation in green activities and challenges.

At the same time, a **Battle for Greenness** sustainability competition was organised among the three Colleges and ITE HQ. EDMs were sent and featured on LCD screens in colleges and HQ with the aim to encourage green habits amongst staff and students and spur collective efforts to reduce usage of Electricity, Water and Food Waste.

Fostering innovations in sustainability

To promote innovation amongst staff, a new competition track on Sustainability was introduced in the annual ITE Smartathon Challenge 2023, which saw 6 teams participating. These projects featured innovative green solutions such as repurposing discarded plastic bottles into 3D printing filament, inventing eco-road cones as an alternative to traditional plastic cones; and harvesting energy from waste collection.


Smartathon Project – Harvest Energy from Waste Collection

Developing Green Skills and Outlook

Under our annual **Future Skills Roadmap (FSR)** for staff, we incorporated all domains of emerging skills, including sustainability. To keep academic staff abreast with industry changes, 832 (49%) underwent Industry Engagement/Industry Attachment. For example, two staff from Landscape Services were attached to Gardens by the Bay to manage a world-class garden and learn sustainable methods of horticulture management and maintenance.

In particular, sustainability-related training programmes (1,280 learning places) has gained increasing traction as staff recognise the importance of developing green capabilities. More than 760 (30%) of staff completed at least one sustainability-related digital learning via the CSC LEARN online learning portal, such as "Carbon Management - A Systematic Approach to Manage Greenhouse Gas Emissions and Measuring and Reporting Carbon Footprint."

Apart from formal training, various sustainability-related programmes and events are organised regularly. These include conferences and seminars such as the 36th REAL Leadership Series entitled "Accelerating Decarbonisation: Implications for Singapore" which was presented by Mr Frederick Teo, Chief Executive Officer, GenZero, and attended by some 150 ITE leaders.

Culture

Other key talks and seminars involving industry and even international experts include:

- Inaugural Sustainable Built Environment Seminar 2023, attended by over 200 participants from the Built Environment sector
- Seminar on Sustainability, Assurance and Clean Energy for Green Marine, attended by 264 guests from the marine industry, and staff and students
- Seminar on Sustainability and Assurance for Green Manufacturing, attended by 234 guests from the industries, and ITE staff and students
- Aviation Decarbonisation Seminar, involving 151 participants from the aerospace industries, agencies, as well as ITE staff and students
- ITE Guest Speaker Series: Melbourne Polytechnic Sustainability Journey, by Dr Rachael Keefe

Various learning journeys and workshops have also been organised for staff and students. These include:

- Passion@Work Sustainability Learning Journey Programmes across the three Colleges
- Learning journey to REIDS-SPORE, which houses the largest wind turbine in Singapore with a 100-kW capacity
- Learning journey to Sentosa Development Corporation (SDC) to learn about SDC's sustainability strategies and approaches, including how they set out to achieve carbon neutrality
- Learning journey to NUS School of Design and Environment 4, which is the first building in Southeast Asia to be awarded the stringent Zero Energy Certification
- Learning journey to SembCorp Tengeh Floating Solar Farm, Singapore's first large-scale floating solar photovoltaic (PV) system
- Plastic Recycling Workshop Learning Journey with Hapag Lloyd in partnership with Plastify.Sg

Visit to SembCorp Tengeh Floating Solar Farm

Keeping Everyone Safe – Workplace Health & Safety

We also ensure a safe and conducive workplace for all staff and students and have maintained a clean record over the last few years with no major injury reported. Our staff are also committed to enhancing workplace health and safety conditions. For instance, a team of CE staff developed an Augmented Reality (AR) Work at Height training course which won the World of Safety and Health Asia Awards 2023 in the category for Industry Initiative Excellence Award.

Nurturing Students as Green Ambassadors

To foster strong culture of sustainability, our students act as our green ambassadors through various CCAs and student development programmes. Besides ITE Environmental Stewardship Programme (ESP) and the Nature's Ambassadors Project supported by NParks, we also introduced the Sustainability Advocates (SA) Program to appoint student leadership roles in CCA Clubs to advocate for sustainability.


Environmental Stewardship Leadership Camp
July 2023

Through these and many ground-up initiatives initiated at all levels across ITE, we aim to grow a green mentality which permeates the everyday lives of staff and students.

Collaboration

Strong Industry Engagement in Co-Creating Learning

ITE's green journey has been greatly enriched by our strong network of partners. Our 276 MOU/LOC industry partners have collaborated with us to enhance student learning, strengthen our curriculum and co-create high-tech learning facilities. For instance, Lenovo launched its "Innovations in Sustainability" initiative, in collaboration with Advanced Micro Devices (AMD) and ITE, which includes the setting of two new training labs – Sustainability Lab and eXtended Reality Centre (XRC), and two CoC courses in green digital transformation, including internships for ITE students.

New Facilities in collaboration with Lenovo and AMD

Other examples of our collaboration with MOU partners on sustainability include:

- MOU with Deloitte & Touche Enterprise Risk Services Pte Ltd, to collaborate in developing and providing sustainability-related CET courses
- MOU with Singrow Pte Ltd, to collaborate in the field of smart agriculture research and technologies
- MOU with Life3 Biotech Pte Ltd, in the field of Agri-Food and Food-Biotech science and technology
- MOU with Singtel, to co-create training programmes for PET and CET courses to support manpower needs for the Sustainable Data Centre sector

In addition to MOU/LOCs, we have developed an extensive network of over 5,000 internship companies and 800 Work-Study Diploma (WSDip) participating companies providing placement opportunities for our students. These partners also play an instrumental role in shaping our curriculum to include industry-relevant content such as sustainable practices and innovations.

Green Projects with Industry

We also offer our R&D capabilities to co-develop innovative solutions with various agencies and companies, including SMEs, This has also enabled our staff and students to be exposed to various challenges facing industry and hone their technical expertise. In particular, the project "Indoor Vertical Hydroponics Farming using Nutrient Film Technique (NFT)" by College West, in collaboration with local agri-tech startups, was awarded the **Institution of Engineers (IES) Sustainability Awards in 2023**. This hydroponics system aims to maximise plant growth within limited space, utilising Nutrient Film Technique and LED lighting. It has enabled sustainable farming practices within homes, and support the goals of the Singapore Green Plan and foster community-level food production.

Students Value-adding to Industry

Under the second run of the **SME Sustainability Drive** (first run was in 2020) organised by the National Youth Achievement Award Council (NYAA) and HSBC, 20 SMEs were paired with ITE students who helped them to conduct environmental reviews and develop innovative interventions to reduce carbon emissions.

Other ways in which our students collaborate with industry include sustainability challenges and hackathons such as ITE x JUMBO Hackathon 2023 – the first-ever Zero Waste Culinary Hackathon Competition hosted by Jumbo, for ITE Culinary Arts students. A total of 40 students participated in this event, where they incorporated food trimmings from Jumbo and transformed them into valuable resources through innovative applications, thereby setting a benchmark for sustainable practices in the culinary landscape.


Students participating in SME Sustainability Drive

Collaboration

Advancing Sustainability with the Local Community

Apart from industry, we also partner with schools and the general public to foster sustainability awareness. In the ignITE Skills Challenge 2023 organised by ITE for secondary school students, a total of 15 skills challenges were featured, of which six were related to sustainability, such as “Decarbonisation at Home” and “My SustainaBot!”. These challenges allow secondary school students to develop an appreciation for sustainability principles and applications. In addition, we also engage secondary schools via hosting learning journeys to our green facilities and working with them on projects, such as setting up an urban farm as well as a classroom vertical green for growing vegetables at Changkat Changi Secondary School.

With public interest in sustainable development on the rise, we have worked with grassroots and community leaders to demonstrate eco-conscious practices and green innovations relevant to everyday living, to residents and schools. At the inaugural Brickland-ITE Green Festival, Brickland Sustainability Workgroup collaborated with College West to organise a two-day Green Festival, which saw the participation of about 1,000 youths and 4,000 residents. This festival featured a wide range of green workshops such as vermicomposting and hydroponics, as well as various booths manned by our students, such as Electric Vehicles.

Working alongside community groups and residents, our students also perform community services to care for the environment. These include the Kayak & Klean (KnK) Coastal Clean Up in collaboration with People’s Association to remove marine trash along the coastal areas via kayaks to sort and wash them for recycling; tree planting activities with Changi Simei residents; and collecting recyclables from residents living in Choa Chu Kang neighbourhood.

Learning Exchanges with Global Partners

Globally, our collaboration with international industry and education partners has enabled us to share best practices and expertise on various sustainability topics, and provide opportunities for our students to go on learning exchanges with their foreign counterparts. The **Shizuoka-Singapore Agri Food Forum 2023** held in Shizuoka, attended by ITE as well as Polytechnics and local agri-tech firms, is an example of an important platform for collaborations in urban agriculture R&D, expansion of local agritech SMEs, and staff-student exchange between Singapore and Shizuoka. Apart from panel discussions on sustainable agriculture, our local delegation visited their high-tech indoor farms and research institutes which also paved the way for future collaborations. Learning exchanges with overseas partners help broaden our students’ horizons on the sustainability challenges that other countries face and allow them to work together to talk about and address these issues.

Under the ITE-Temasek Foundation Specialists’ Community Action and Leadership Exchange (SCALE) Programme – Climate Change & Sustainability, 20 ITE students embarked on a trip to Vietnam and were paired with 20 Vietnam students to explore the sustainable development policies and practical issues on sustainability in Vietnam, such as climate change and its impacts on sustainable development and water security in Ho Chi Minh City.

Our students also embark on overseas community projects. For instance, through our MOU partner Diversey, 24 students went on a Youth Expedition Programme (YEP) trip in Bali, Indonesia, supported by Bali Life Foundation. The students taught the villagers on upcycling of soap bars and coffeeground to another useful products. They also got to see a landfill for the first time, where they combed through the Suwang Landfill in search of useful items that could still be recycled.

Sustainability Trip to Bali, Indonesia (Sep 23)

FY2023 Environmental, Social and Governance (ESG) Reporting

Environmental

We have seen positive outcomes in our sustainability pursuit. Our ESG reporting comprises key environmental sustainability measures, that are aligned to the targets set under **GreenGov.SG**, as follows:

a) Carbon Emissions (Scope 1 and Scope 2)
b) Electricity Consumption
c) Water Consumption
d) Waste Management

Energy Consumption

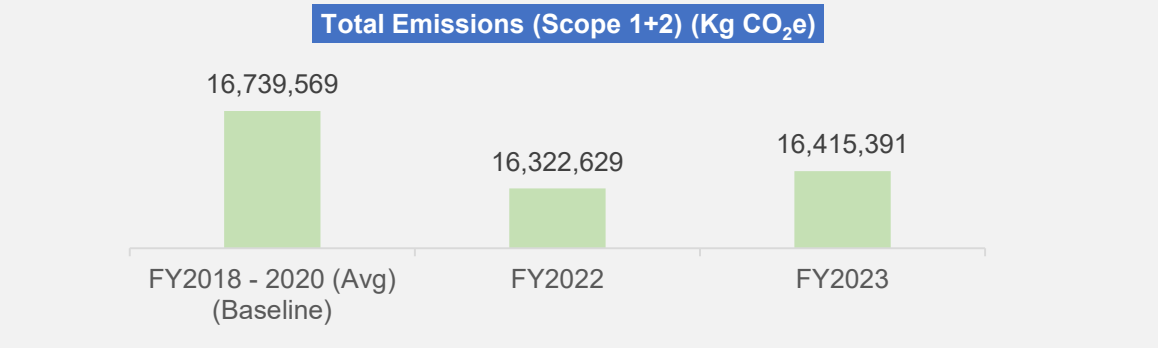
(Note: Data for FY2021 are not included here for comparison as it was a Covid year where activities were substantially scaled down. Our environmental sustainability data will likely peak by 2024/25 before stabilising at around FY2025)

As staff and student activities resumed fully in FY2023, our energy and water consumption have increased, compared to FY2022 where some Covid-19 restrictions were still in place. These consumptions will likely peak by 2024/25, before stabilising at around FY2025. Some initiatives which we have put in place in FY2023 to reduce electricity consumption include upgrading of Air Handling Units (AHUs) with Electronically Commutated (EC) Fans; increasing set-point temperature (progressively); replacement of existing lightings to LED lights (progressively) and increasing Solar Adoption in CW. These measures helped reduced ITE's overall energy consumption by about 4.5% when compared with our baseline. The various measures put in place to support CE's attainment of SLE certification have also given us a big push in electricity reduction.

To achieve 10% reduction in electricity consumption by 2030, we are working on attaining SLE for ITE HQ&CC and ITE CW by 2024 and 2025 respectively. With the attainment of both SLE, we project about 7% - 10% reduction in energy consumption from baseline, which means that we will be able to achieve GreenGov.SG's target in FY2025, five years ahead of the GreenGov.SG's target. The installation of the Solar Panels in CW, together with existing Solar Panels in ITE HQ & CC and CE, will also enable ITE to generate 6% of its energy from solar panels in FY2024, ahead of our original plan to attain 5% by 2025.

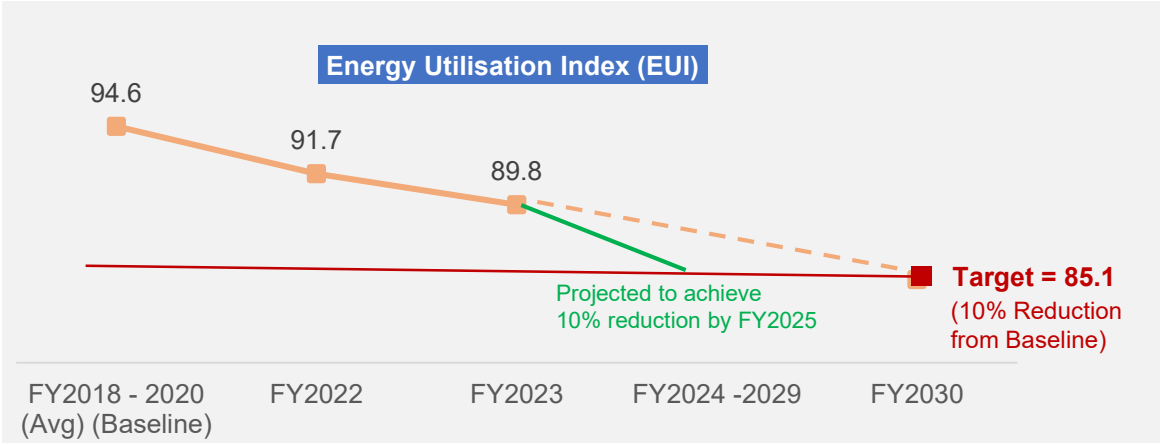
(a) CARBON EMISSIONS (CO_2e)

	FY2018-20 (Average)	FY2022	FY2023
Scope 1 (Gas)	30,096	25,544	22,696 ▼
Scope 2 (Electricity)	16,709,473	16,297,085	16,392,695 ▼



(b) ELECTRICITY CONSUMPTION

	FY2018-20 (Average)	FY2022	FY2023
Electricity Usage (in kWh)	41,186,772	40,170,287	39,329,883 ▼



Environmental

Water Consumption

In 2023, we initiated a few measures to reduce water consumption by strategically reducing water flowrate to various facilities within ITE. We also analysed peak water usage (hot spots) and anomalies and worked on leakage detection and rectification. During the baseline period (FY18-FY20), ITE consumed 288,419 m^3 of water, with a Water Efficiency Index (WEI) of 19.0. In FY23, ITE consumed a total of 376,276 m^3 of water. Although there is a net increase in overall water consumption, our FY23's WEI was similar to that of our baseline, i.e. 19.0. This was primarily due to the increase in the number of footfall on campus from our CET and EIP figures.

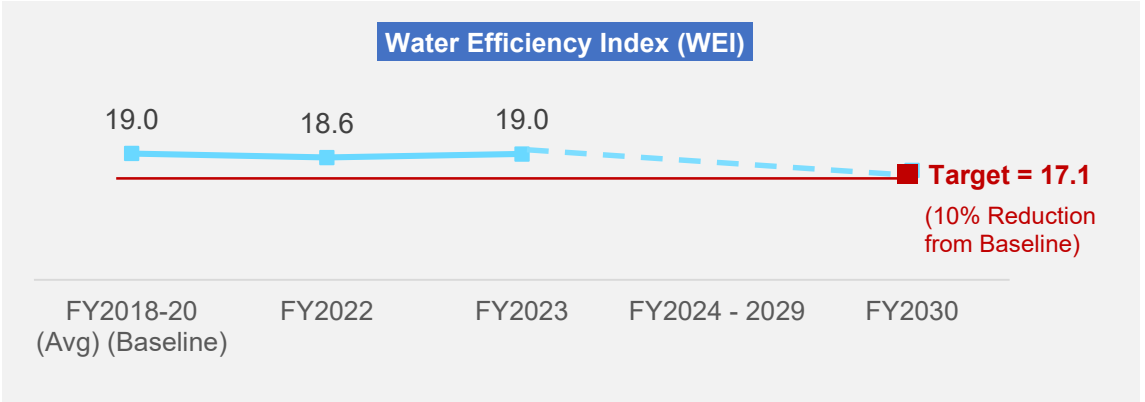
Our analysis did show, however, that ITE CC experienced a high increase in overall water usage in FY2023. We will be working with our Technology Development Centre to install IoT sensors and monitoring to further detect leaks; enhance the existing irrigation system, review water consumption habits by our landscape/ cleaning contractors; and reduce water flow rate across the campuses. These, together with our preparation to apply for ISO46001:2019 Water Efficiency Certification in 2025, will hopefully enable us to significantly reduce water consumption.

Waste Disposal

The amount of waste has increased significantly in FY2023 but computed on WDI, it has declined from baseline. With the installation of two 2 Food Waste Digesters in Mar 2024, moving forward, this will enable us to achieve reduction of waste by 12%. With these, ITE's FY24 WDI is estimated to be below the baseline WDI. We will also be collaborating with suppliers to reduce packaging waste by opting for products with minimal or recyclable packaging and implementing a Comprehensive Recycling Program to promote and track recycling efforts.

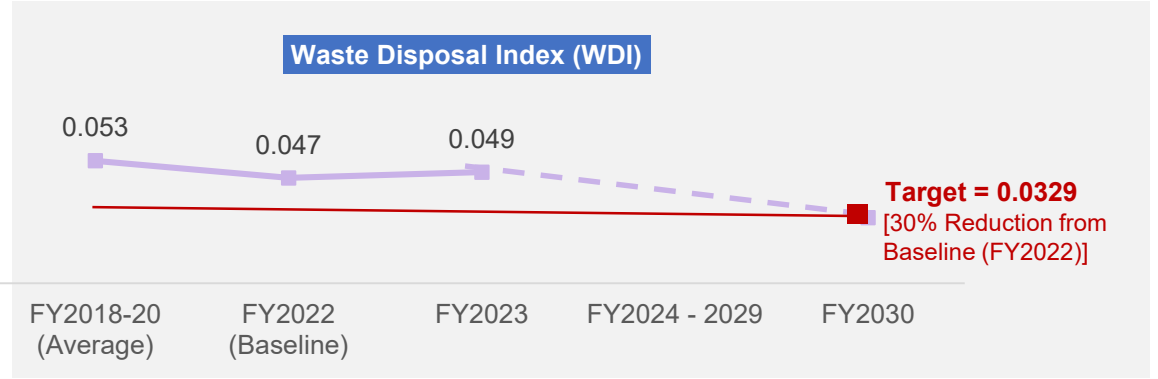
(c) WATER CONSUMPTION

	FY2018-20 (Average)	FY2022	FY2023
Water Consumption (in m^3)	288,419	347,576	376,276 ▲



(d) WASTE DISPOSAL

	FY2018-20 (Average)	FY2022	FY2023
Waste Generated (in tonnes)	807	878	980 ▲



Social

In terms of assessing our social impact on people, culture and the communities, we have focused on ensuring and building:

a) **Quality Education that supports Economic Growth**
b) **Sustainable Human Capital**
c) **Partnerships on Sustainability and Innovations**

The key outcomes of our efforts are summarised in Table 1, which shows that:

- Our students and graduates continued to enjoy high success and good employment outcomes, with an increasing number of them joining our WSDip pathway
- Our staff continued to grow with new learning opportunities, including industry experience and IA, and innovate through projects
- Our expanded network of industry partners enable us to collaborate with them to enrich student learning, accelerate technology transfer and enhance staff capability

Table 1 – Measures on Social Impact

Social Impact	Indicators	FY2020	FY2021	FY2022	FY2023
a) **Quality Education & Economic Growth**	1) PET Enrolment	28,149	28,231	27,849	27,437
	2) CET Training Places	32,846	44,327	46,732	49,959
	3) Work-Study Diploma (WSDip) Enrolment (As at 30 Apr)	814	1,246	1,885	2,443
	4) Student Success Rate	88.0%	89.8%	90.8%	90.0%
	5) Graduate Employability	77.9%	82.9%	82.9%	88.1%
b) **Sustainable Human Capital**	6) Total No. of Staff Learning Places	20,230	21,143	42,338 *	21,738
	7) % of Academic Staff participate in Industry Engagement (IE) and Industry Attachment (IA)	30% (468)	41% (655)	36% (602)	49% (832)
	8) No. of Innovation Projects [% on Sustainability-related projects]	300 [8 (3%)]	311 [29 (9%)]	391 [36 (9%)]	378 [40 (11%)]
c) **Partnerships on Sustainability & Innovations**	9) No. of Active MOU/LOC Industry Partners	181	220	253	276
	10) No. of New MOU/LOC Industry Partners	27	62	31	43
	11) No. of New MOUs/LOCs with Sustainability focus	2 (7%)	8 (13%)	10 (32%)	13 (30%)
	12) No. of Internship Companies	3,913	4,862	4,894	4,967
	13) No. of WSDip Companies	179	181	318	394

**There was a spike in mandatory online POLITE (Polys and ITE) Digital Capabilities Framework and Workday Modules courses on LEARN platform in FY2022 for staff to attain baseline digital capabilities. With the cycle completed, FY2023 learning places has returned to normalised levels, with more face-to-face learning modes.*

Governance

In terms of Governance, ITE is governed by an independent 19-member Board. We have in place a Sustainability Structure (page 4) to drive our sustainability efforts. As this Disclosures will be presented as an attachment to the ITE Annual Report 2023, readers can refer to the ITE Annual Report 2023 for details on ITE's governance, key accountabilities, outcomes and achievements in FY2023.


Future
Plans

Future Plans

As we continue our sustainability journey ahead, our key future plans are broadly outlined below. It is a work-in-progress, which we will continually review and enhance with new programmes and initiatives, including encouraging further ground-up initiatives from staff, students and the community.

1 CAMPUS

- Achieve SLE for ITE HQ & CC (2024) and ITE CW (2025)
- Achieve Green Mark Platinum for Data Centres (by 2025)
- Attain 6% of energy consumption from solar energy by FY2024
- Utilise Passive Chilled Beam Systems at suitable college facilities for enhanced energy efficiency
- Upgrade Variable Air Volume (VAV) controllers to maintain acceptable indoor thermal comfort efficiently
- Achieve Water Efficiency Management Systems (ISO46001:2019) by 2025
- Step up efforts to identify possible water leakages, including working with Technology Development Centre
- Procure and install food waste digester for CW (2024)

2 CURRICULUM

- Infuse industry Sustainability use cases into all trade courses (Level 2 of Green Curriculum to be introduced by 2025)
- Leverage Gen AI to promote and support learning on sustainability for students
- Offer and conduct more Sustainability MLCs and CET courses, including with key industry players
- Develop a new Technical Diploma in Electrical Engineering (Clean Energy) for launch in 2025

3 CULTURE

- Implement 'Future Skills Roadmap' for all staff (includes digitalisation and green skills)
- Sustainability Eco-Conference for staff, students and industry
- 'Call for Action' Teams to build culture and leveraging on technologies
- Student Sustainability Advocates to galvanise student body

4 COLLABORATION

- Forge new Partnerships for Sustainability programmes, including enhanced emphasis on preserving and managing local fauna ecosystem; wildlife conservation and management
- More collaborative projects to further support 'City in Nature, Nature in City'
- Explore more Sustainability drives and projects with industry, particularly SMEs
- Extend Community Outreach focusing on Sustainability messages and projects

Of Course, Sustainability Matters!

Join us, in taking the steps towards reducing our carbon footprints!

THANK YOU