



اَبُو سَيِّدِي تَيْكُو لُو كِي مَارَا
UNIVERSITI
TEKNOLOGI
MARA

UITM SHAH ALAM LOW CARBON ZONE

IMPLEMENTATION DOCUMENT 2023

**LOW CARBON CITY CHALLENGE 2030
(LCC2030C)**

OUTLINE

01 About UiTM

02 Executive Summary

03 Vision, Mission & Pledge

04 Site Selection

05 Emission Reductions Target

06 Carbon Sequestration Target

07 Implementation Approach

08 Partners & Roles

09 Strategies, Activities and Implementation

10 Conclusion

11 Contact Us



01

About UiTM

Universiti Teknologi MARA (UiTM) is Malaysia's largest institution of higher learning. The university is based on 13 state campuses and 21 satellite campuses. The state of Selangor has the largest number of UiTM campuses, and the main anchor campus is located in the state capital, Shah Alam. UiTM is headed by a Vice-Chancellor while the branch campus is headed by a Rector. UiTM offered more than 500 programmes ranging from foundation to postgraduate level. It is home to approximately 200,000 students: bumiputeras and international students, in full-time and part-time mode. There are 26 faculties and 5 academic centres at UiTM. The faculties are grouped into three clusters: Science and Technology, Business and Management and Social Sciences and Humanities. UiTM envisions to be a Globally Renowned University (GRU) of Science, Technology, Humanities and Entrepreneurship by 2025.

02 Executive Summary

UiTM is committed to implement the low carbon cities framework program focusing on four GHG reduction elements: energy, waste, water; and greenery and water bodies. UiTM carbon commitment is to reduce 45% emission by 2030 from the baseline year 2015. A city-based approach is chosen for the whole campus with special projects of performance-based approach for selected buildings. Various initiatives are outlined in achieving the Sustainable Development Goals (SDG) through sustainable campus practices, green governance and ecosystem; and university-community linkages and partnerships for the goals. A carbon management plan is underway to enable UiTM to be Malaysia's best Low Carbon Public University Model by 2030, while also striving for carbon-neutrality.

03

Low Carbon Vision

VISION

**To be Malaysia's best
Low Carbon
Public University Model
by 2030**

03

Low Carbon Vision

MISSION

- 1) To incorporate sustainable practices through teaching, learning and research towards development of green talent.**
- 2) To implement green governance that advocate sustainability in managing goal setting, execution and performance management of UiTM.**
- 3) To commit in protecting and enhancing the green campus ecosystem through carbon management.**
- 4) To increase university-community linkages and partnerships in achieving sustainable development goals.**

03

Low Carbon Vision

PLEDGE

**45% reduction
in carbon emission
by 2030 from
baseline year 2015**

04 Site Selection



Universiti Teknologi MARA - Seksyen 1

05

Emission Reduction Target

ENERGY

30% reduction in building energy use by 2030 from baseline year 2015

7.5% increase in renewable energy by 2030 from baseline year 2015

ASEAN Energy Management Scheme (AEMAS) certification.

05

Emission Reduction Target

WASTE

30% reduction in municipal solid waste to landfill by 2030 from baseline year 2015.

05

Emission Reduction Target

WATER

30% reduction in water usage by 2030 from baseline year 2015

7.5% increase in rainwater harvesting by 2030 from baseline year 2015.

06

Carbon Sequestration Target

GREENERY

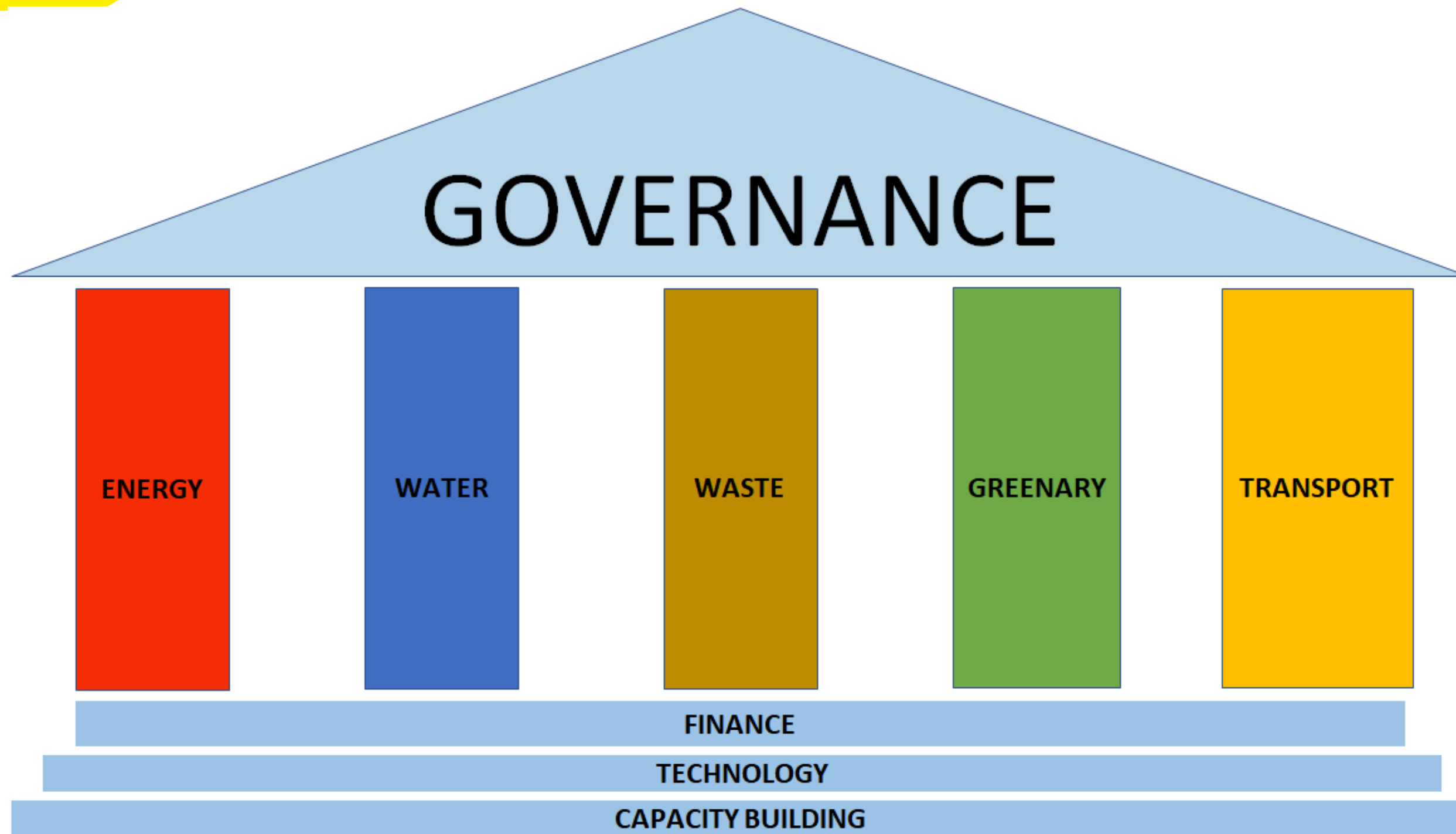
**3% increase in green space
by 2030 from baseline 2015.**

FOREST AND WATER BODIES

**Preserve existing forested and
water bodies areas.**

07

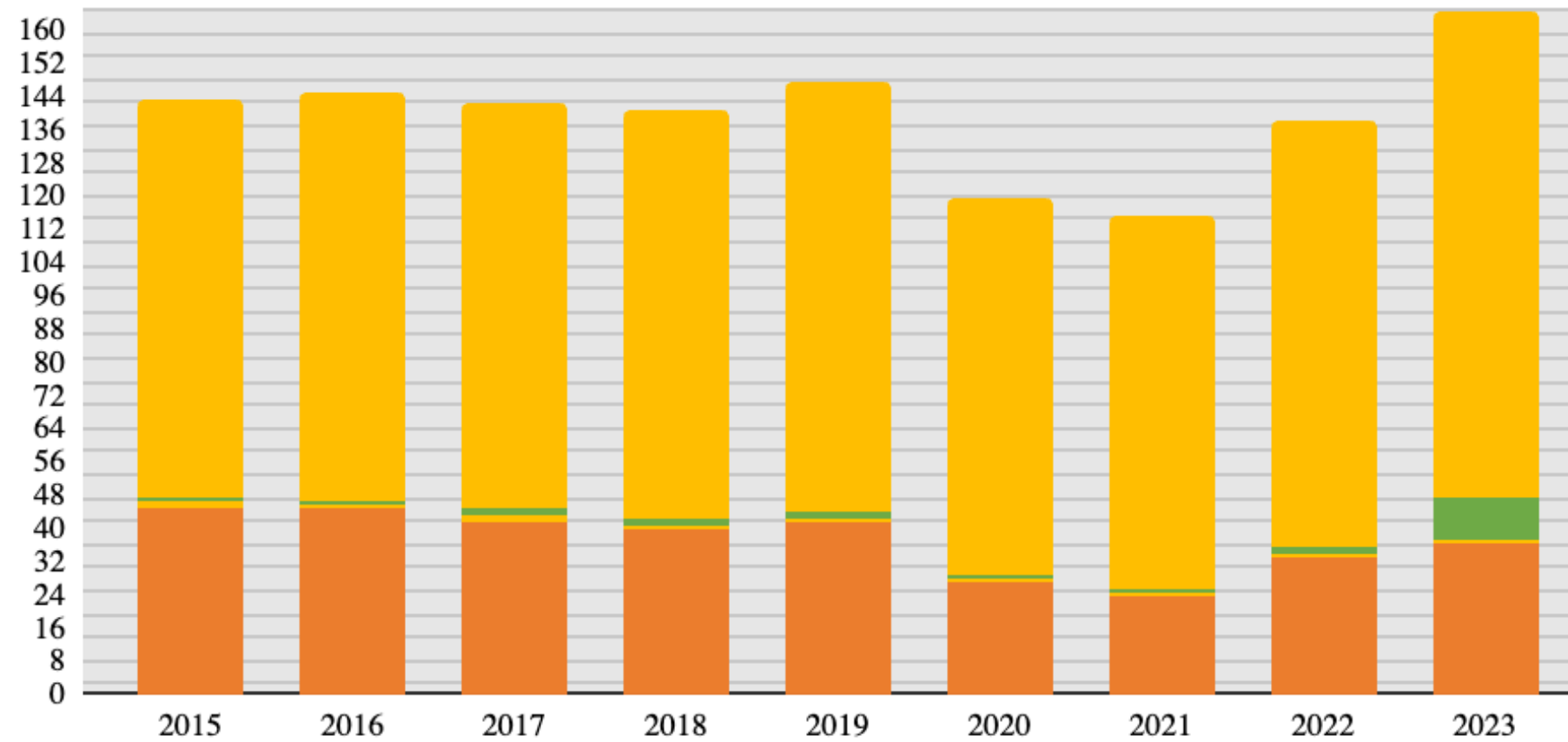
Implementation Approach



07

Implementation Approach

CARBON EMISSION SUMMARY, tCO₂e

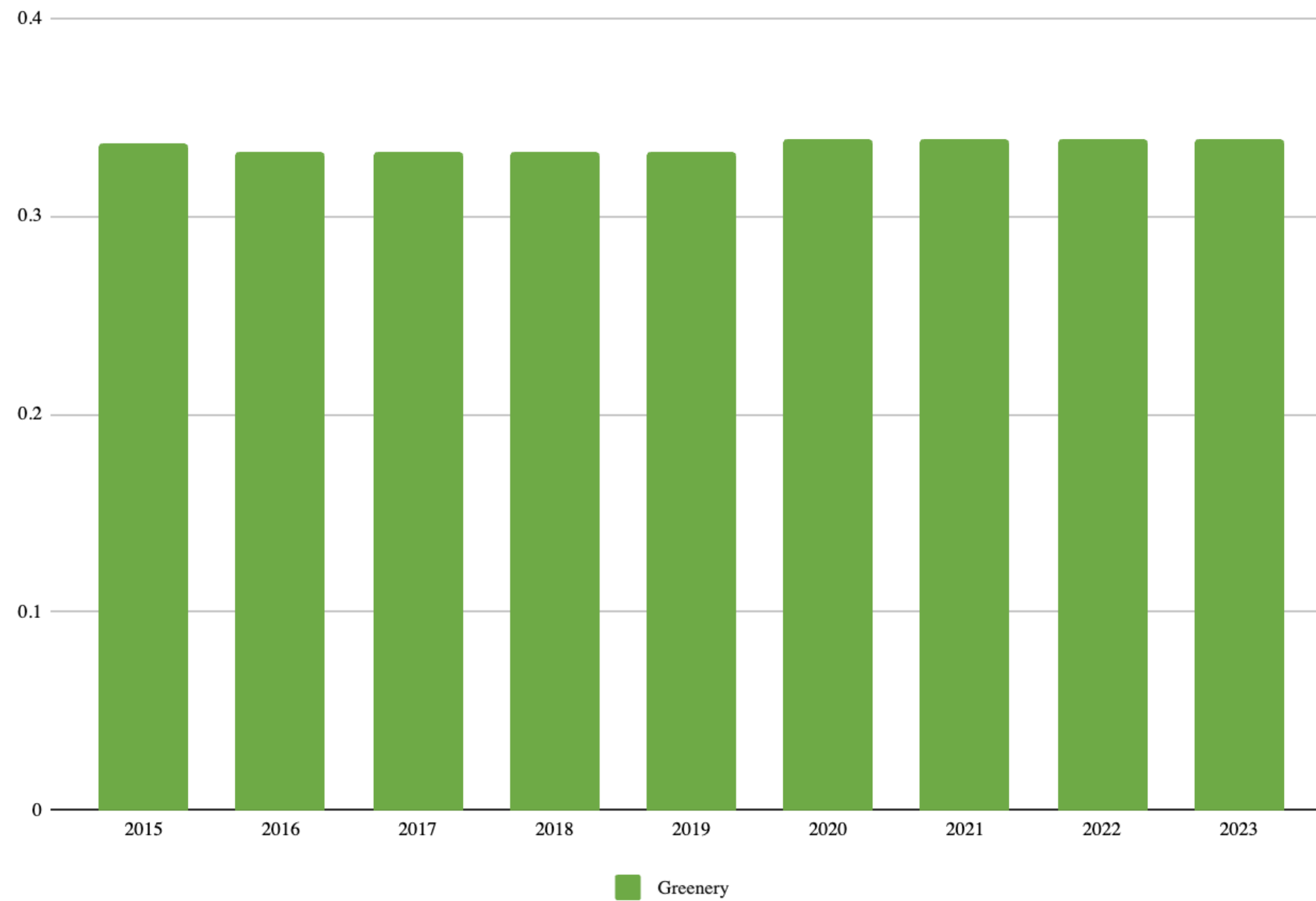


■ Mobility 2 [4] ■ Mobility 1 [3] ■ Waste 2 [2] ■ Waste 1 [1] ■ Water ■ Energy

07

Implementation Approach

CARBON SEQUESTRATION SUMMARY, tCO₂e



08

Partners & Stakeholders Role

Partners	Roles
MBSA	Facilitate in training and low carbon initiatives
UiTM Holdings	Installation of Solar PV Rooftop
IGES	ASEAN Frontrunner City Program

09

Strategies & Planning (Energy)

Strategies		Actions		Means of Verification	Target Year	Responsibility	Status
S1	Change to energy efficient appliances	T1	Replacement of fluorescent bulb to LED for all building and street	Inventory list	2025	UiTM Facility Maintenance	Ongoing
		T2	Split unit air conditioner will be replaced to inverter types				
		T3	To replace the existing chiller with variable speed drive (VSD) system				
S2	Energy policy to be used as guideline	T1	To ensure all UiTM campuses to use the energy policy as guideline for energy usage	Energy Policy	2025	UiTM Facility Maintenance	Ongoing
S3	Renewable energy to be installed in the campus	T1	To install more renewable energy sources such as solar photovoltaic (PV)	Number of solar photovoltaic	2025	UiTM Facility Maintenance	Ongoing
S4	Smart building implementation	T1	To install sensors such as photocell sensors	Inventory list	2025	UiTM Facility Maintenance	Ongoing
S5	Energy management system	T1	To increase number of certified energy manager	Number of energy manager	2025	UiTM Facility Maintenance	Ongoing

09

Activities & Implementation (Energy)



Energy Efficient Appliances Usage such as LED lighting,
inverter aircond and precision aircond with inverter

09

Activities & Implementation (Energy)



Energy Policy UiTM

09

Activities & Implementation (Energy)



Photovoltaic roof solar panel at particular building with total of 20kW

09

Activities & Implementation (Energy)



Smart Building Installation of photocell sensor at Engineering Complex

09

Activities & Implementation (Energy)

Energy Management System

UTM is encouraging more staff to apply for the energy manager certification.

00247

 Suruhanjaya Tenaga
Kementerian
No. Perakuan : PTE-0021-2013

AKTA BEKALAN ELEKTRIK 1990

PERATURAN-PERATURAN PENGURUSAN TENAGA ELEKTRIK DENGAN CEKAP 2008

**PERAKUAN PENDAFTARAN SEBAGAI PENGURUS
TENAGA ELEKTRIK**
(subperaturan 14(1))

Menurut subperaturan 14(2) Peraturan-Peraturan Pengurusan Tenaga Elektrik dengan Cekap 2008, perakuan pendaftaran ini dikeluarkan kepada

RAZALI BIN ABD HADI
(nama pemegang)

Nombor Pendaftaran : 641010-05-5161 Tarikh Lahir : 10/10/1964

dan memberi kuasa kepada pemegangnya untuk menjalankan fungsi dan kewajipan seorang pengurus tenaga elektrik berdaftar selama tempoh 1 tahun* dari tarikh perakuan ini dikeluarkan sebagaimana yang dinyatakan di bawah. Perakuan ini dikeluarkan kepada orang yang tersebut di atas dan tidak boleh digunakan oleh mana-mana orang lain.

BERKUALITI BERKUALITI

SYARAT-SYARAT yang terdapat di muka surat bersebelahan :

Tarikh dikeluarkan : 18/04/2013
*Tarikh tamat tempoh : 17/04/2014
Fi. RM : 100



Suruhanjaya Tenaga

09

Activities & Implementation (Water)

				Verification			
S1	Campaign, promotion and education	T1	Introduce environmental related subject for students to increase understanding about protecting nature	Number of programs	2016 -2025	Faculty	Ongoing
S2	Water saving and conservation	T1	Installation of rainwater harvesting system at suitable location including buildings and open spaces within the campus.	Rainwater harvesting system	2018-2025	UiTM Facility Maintenance	Ongoing
S3	Water Efficient appliances usage	T1	Installation of water efficient appliances such as washing taps, toilet flush, etc)	Inventory list	2017-2025	UiTM Facility Maintenance	Ongoing
S4	Water Recycling program	T1	Encourage more water recycling program	Number of programs	2019-2025	UiTM Facility Maintenance	Ongoing
S5	Pipeline replacement	T1	To improve water distribution in UiTM	Number of pipelines	2018 - 2025	UiTM Facility Maintenance	Ongoing

09

Activities & Implementation (Water)

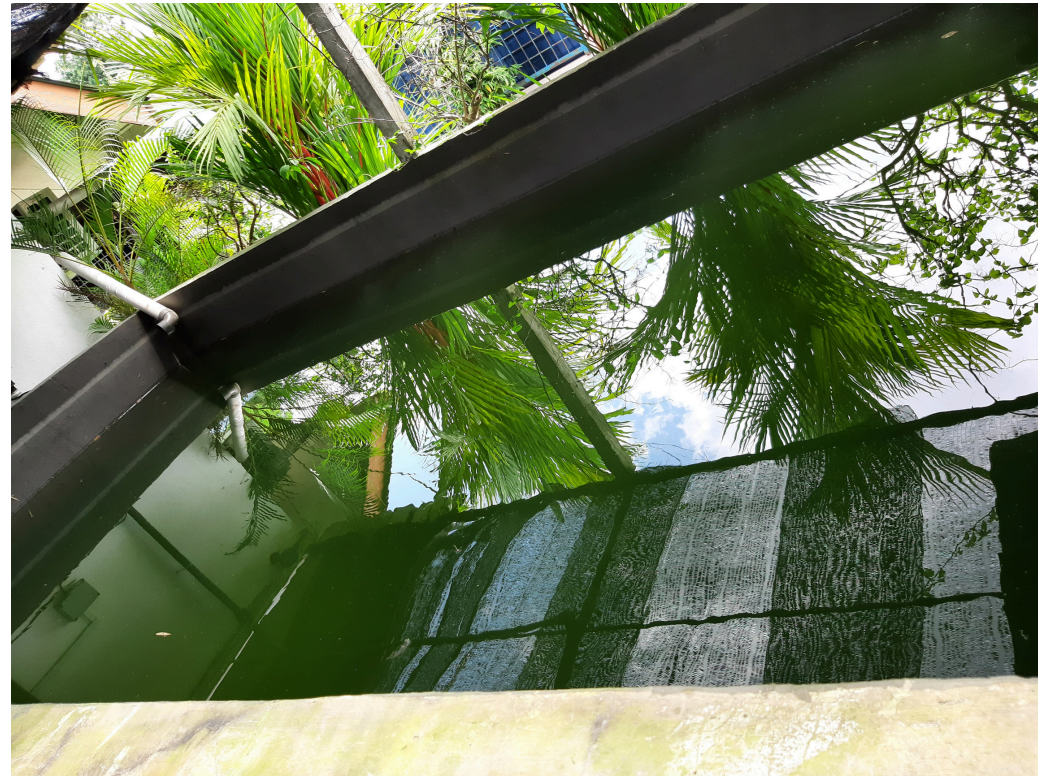


Photos by courtesy of Mr. Fauzi Baharudin

**Continuous Water Conservation
Educational Program for Students**

09

Activities & Implementation (Water)



Rainwater harvesting system at UiTM Nursery

09

Activities & Implementation (Water)



Photos by courtesy of Mr. Ihsan Syadid Mohd Azmi

Use of water-efficient appliances to control the consumption of water in the air-conditioning system

09

Activities & Implementation (Water)



Installation of toilet model with low and dual-flush function to reduce water consumption

09

Activities & Implementation (Water)



Photos by courtesy of Mr. Ihsan Syadid Mohd Azmi

Use of altitude valve to control storage tank level and prevent water overflow

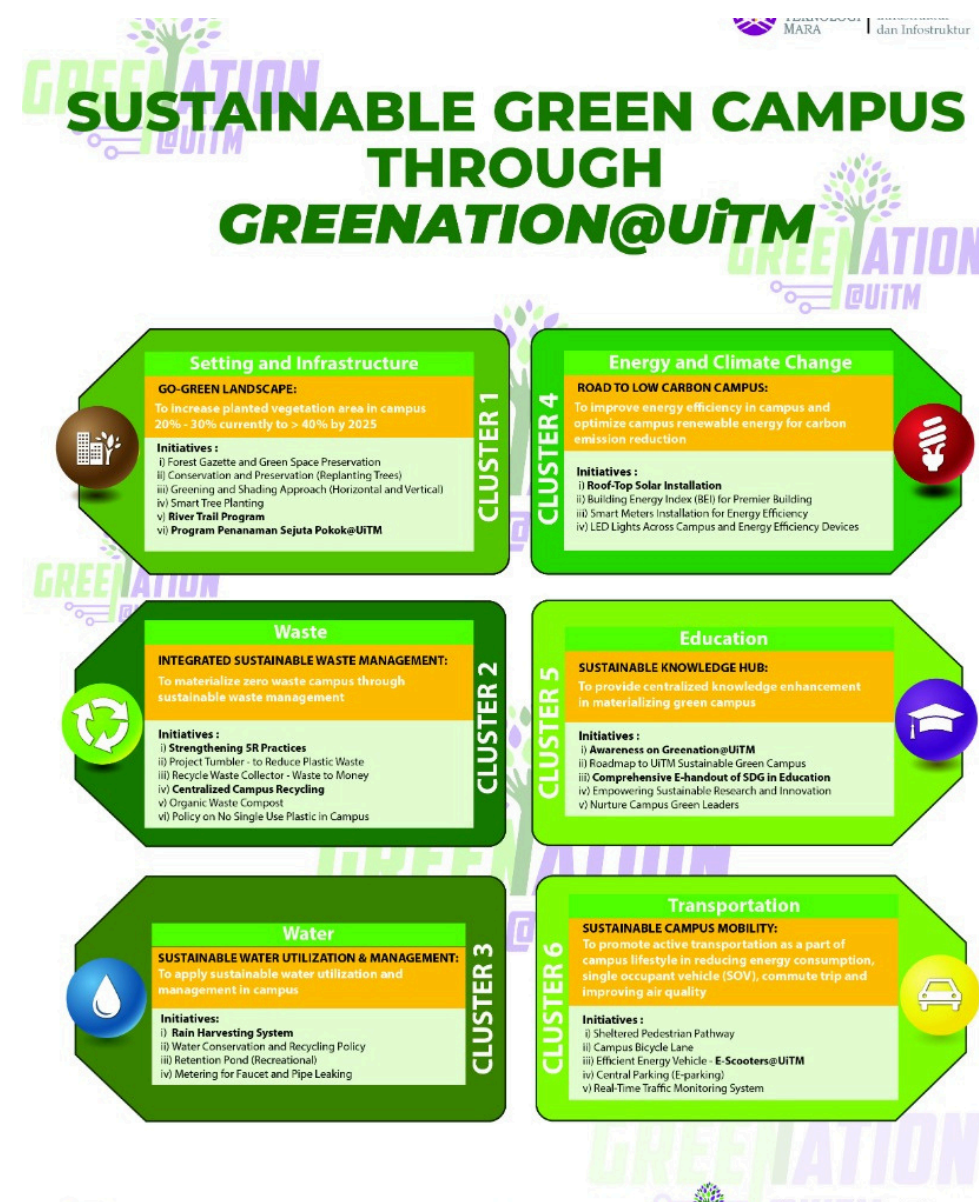
09

Strategies & Planning (Waste)

Strategies		Actions		Means of Verification	Target Year	Responsibility	Status
S1	To educate, train, provide information and instructions to promote a culture of recycling in the campus community	T1	Recycling programmes for university waste	Number of programs	2025	UiTM Facility Maintenance	Ongoing
		T2	Separation of waste at source programmes	Waste management system			
S2	To introduce appropriate and systematic waste management in ensuring cleanliness and well-being of all UiTM campuses	T1	Programmes to reduce the use of paper and plastic on campus	Number of programs	2025	UiTM Facility Maintenance	Ongoing
S3	Composting of green waste	T1	To organize a composting centre for the green waste	Composting centre	2025	UiTM Facility Maintenance	Ongoing
S4	To provide adequate human, financial and time resources to ensure the effectiveness and sustainability of the waste management policy	T1	To provide an efficient waste management system	Waste management system	2025	UiTM Facility Maintenance	Ongoing
		T2	Awareness and Education programme	Number of programs	2025	UiTM Facility Maintenance	Ongoing
S5	Set up collection centres for different waste categories such as toxic waste etc.	T1	To setup a waste recycle centre.	Waste recycle centre	2025	UiTM Facility Maintenance	Ongoing
		T2	To setup a centre for treatment of organic and inorganic wastes.	Treatment centre	2025	UiTM Facility Maintenance	Ongoing

09

Activities & Implementation (Waste)



Formation of New Unit Focus on Sustainable Green Campust at UiTM

09

Activities & Implementation (Waste)

REDUCE SINGLE-USE PLASTIC
COME AND JOIN OUR ACTIVITIES

6 NOV-1 DEC 2023

Bin It now for a Greener Tomorrow!
WE HAVE PROVIDED THE RECYCLE BIN IN FRONT OF STORE UKUR SUG. SHOW YOUR SUPPORT!! THROW YOUR UNWANTED PLASTIC INTO THE BIN!!

Talks and Games for Change!

- TALK ON SINGLE-USE PLASTIC
- MINI GAMES

Venue : Dewan Kuliah Besar, Studies of Surveying Science & Geomatics, School of Geomatics Science and Natural Resources, College of Built Environment

1 DEC 2023 (FRIDAY) 10AM - 12PM

MYSTERY GIFT FOR WINNER PARTICIPANT

REGISTER HERE

ORGANISER: SHELLDRAKE (AP220 8A)
IN FULLFILL OF REQUIREMENT: GLS692 PROJECT MANAGEMENT
COLLABORATION: STUDIES OF SURVEYING SCIENCE & GEOMATICS, SCHOOL OF GEOMATICS SCIENCE AND NATURAL RESOURCES AND COLLEGE OF BUILT ENVIROMENT

FOR GENERAL INQUIRIES, PLEASE CONTACT: ABDULLAH 019 265 4872 | NAJMI 013 746 4910 | EFFENDI 013 359 6378

Generations of Professional Excellence

kab.ultm.edu.my | kab.ultm | KAB UTM

GOTONG ROYONG PERDANA
"Kita. Kampus & Alam"

29 SEPTEMBER 2023
Jumaat | 8.15 pagi

Lokasi Taklimat

KAB Kampus Shah Alam Courtyard Blok B	KAB Sains Ukur & Geomatik Dewan Kuliah SUG	KAB Kampus Puncak Alam Dewan Kuliah KAB
---	--	---

Unleashing Potentials Shaping the Future | Generations of Professional Excellence | kab.ultm.edu.my | kab.ultm | KAB UTM

Recycle Campaign

09

Activities & Implementation (Waste)

greenCBE
'greener & healthier lifestyle'

Join the **CBE TUMBLER DAY** Competition
Reduce single-use plastic

Open to all CBE
Shah Alam & Puncak Alam
staff & students

Snap and upload
a photo with your tumbler
with CBE background!

The most creative photo from
each category will receive
a cash prize

Registration

Winners will be
featured on all CBE
official social media

26 October 2023 (Thursday)
8am-11.59pm

Organiser: greenCBE
Collaborator: CBE Corporate Communication
Unit (UKK)

Unleashing Potentials
Shaping the Future

World University
Rankings
2023 TOP 1500+

MDEC
Premier Digital
Tech Institution

IMPACT
FINANCIAL
2022 TOP 101-200

MARA

Generations of Professional Excellence
www.kab.uitm.edu.my | kab.uitm | KAB UITM

Recycle Campaign

09

Activities & Implementation (Waste)



The poster features a green background with a stylized illustration of a hand holding a globe. The globe is decorated with various environmental symbols like trees, a river, and a leaf. The text is white and green, providing details about the campaign's dates, activities, organizers, and contact information.

UNIVERSITI TEKNOLOGI MARA
Faculty of Business and Management
ICAN UNIT

TOP 250
WORLD UNIVERSITY RANKINGS
2021

RANKED
WORLD UNIVERSITY RANKINGS
2021

RANKED
WORLD UNIVERSITY RANKINGS
2021

RECYCLE FOR GREENER ENVIRONMENT

GO GREEN, LET'S DONATE!

29 MAY - 29 JUN 2022: COLLECTS RECYCLE ITEM

30 JUN 2022 | 2PM - 4PM: DONATION CEREMONY

ORGANIZED BY :
SEMESTER 2 STUDENTS
BACHELOR OF BUSINESS ADMINISTRATION (HONS)
TRANSPORT (BA247)
UITM SELANGOR, KAMPUS PUNCAK ALAM

IN COLLABORATION WITH :
MASJID AL-ITISAM, TTDI JAYA, SHAH ALAM

FOR ANY ENQUIRES : 1) ZAKIAH : 011 - 1986 7629
PLEASE CONTACT 2) ALIYA : 011 - 10768785

**Unleashing Potentials
Shaping the Future**

<https://fbm.uitm.edu.my>  FBM_UITM  FBM_UITM  FBM_Official

Recycle Campaign

09

Activities & Implementation (Waste)



Awareness Campaign on single plastic use in UiTM

09

Activities & Implementation (Waste)



Organic waste



Composter



Composted organic waste (2-4wks)



Plant Fertilizer

Processing Organic Waste as plant fertilizer in
UiTM Nursery

09

Activities & Implementation (Waste)

FESTIVAL KELESTARIAN KAMPUS HIJAU UiTM 2021
MANAGE MY WASTE
ISNIN 13 DISEMBER | 2.30-4.30PM

UITMGreenCentre UGC FOR LIFE | UNIVERSITI TEKNOLOGI MARA | Pusat Hijau UiTM

Dr. Faeiza Buyong
UNIVERSITI TEKNOLOGI MARA
MODERATOR

Ir. MOHAMAD ADAN YUSOF
MENSILIN ENERGY SDN. BHD.
Waste Plastic to Fuel Technology

ENCIK AHADI MOHD NASIR
KDEB WASTE MANAGEMENT
Melestarikan Alam Sekitar Melalui Kitar Semula

#uitmgreencentre
#ugc@uitm
#sdg@uitm
#greenation@uitm
#uitmdihatiku

Menyerlahkan Potensi
Membentuk Masa Hadapan

Webinar on Waste Management Organized by
Greenation@UiTM

09

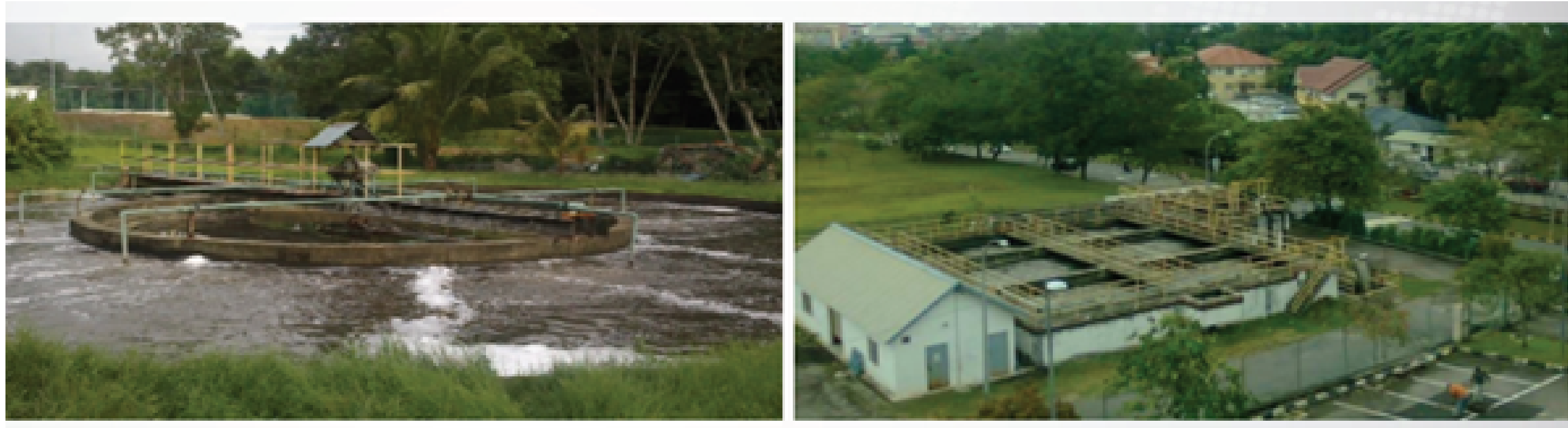
Activities & Implementation (Waste)



UiTM Toxic waste such as clinical waste and hazardous laboratory waste are managed and treated by authorised contractors

09

Activities & Implementation (Waste)



Recycling of wastewater treatment plant in UiTM
in planning

09

Strategies & Planning (Greenery & Water Bodies)

Strategies		Actions		Means of Verification	Target Year	Responsibility	Status
S1	Develop green campus setting and infrastructure master plan	T1	Conduct tree tagging awareness activities	Number of trees tagging	2025	UiTM Facility Maintenance	Ongoing
		T2	Conduct tree replanting program	Number of tree replanting	2025	UiTM Facility Maintenance	Ongoing
S2	To incorporate the requirement to green or vegetation area in the new development.	T1	All new development must take consideration on green environment by maintaining the green area or vegetation area about 10% of total new development area.	Development planning documents	2025	UiTM Facility Maintenance	Ongoing

09

Strategies & Planning (Greenery & Water Bodies)



Monsun Drain Cleaning Routine Activities

09

Strategies & Planning (Greenery & Water Bodies)



Grass Cutting Routine Activities

09

Activities & Implementation (Greenery & Water Bodies)



**Tree Watering, fertilizing, Trimming and
Loosing Soil Routine Activities**

09

Activities & Implementation (Greenery & Water Bodies)



Planted Vegetation Area in UiTM Shah Alam

10

Conclusion

Under UiTM Low Carbon Blueprint, several actions already taken by UiTM such as:

- 1.To encourage the campus community to endeavour sustainability principles and best practices toward achieving excellence in sustainability.**
- 2.To integrate green and sustainable elements by incorporating environmental knowledge into curriculum design.**
- 3.To promote and demonstrate sustainability research.**
- 4.To enhance opportunities for capacity building of students and professionals by incorporating best practices and green lifestyle.**
- 5.To empower campus community to be sustainability leaders.**

11

Acknowledgement

Patron

Profesor Ts. Sr Dr. Md Yusof Hamid, PMP, AMP

Advisor & UiTM LCC Coordination

Associate Professor Ts Dr Khairi Khalid

Head UGC-LCC Expert Task Force

Dr Che Bon Ahmad

UGC-LLC Coordination

Dr Sharil Fadli Mohamad Zamri

Energy Data Expert and Verification

Ts Zainolasri bin Abdul Sani@Salleh

UGC-LCC Expert Task Force

Professor Dr Irwin Ooi Ui Joo

Associate Professor Ir Ts Dr Nur Ashida Salim

Associate Professor Dr Muhamad Nabil bin

Hidayat

Rozana Mastar

Sr. Dr. Mohamad Sufian Hasim

Dr Azlin Mohd Azmi

Nurul Akmaniza Mohd Nasir

Ihsan Syadid Mohd Azmi

Zul Hafiz Mohd Khalid

Designer

Nurul Akmaniza Mohd Nasir

11

Acknowledgement

Contributors

UiTM Green Centre (UGC), UiTM Shah Alam

Operational Premier Team Building Canseleri, UiTM Shah Alam

Pengurusan Fasiliti, Pejabat Pembangunan (Infrastruktur & Infostruktur), UiTM Shah Alam

Bahagian Transformasi Universiti (BTU), UiTM Shah Alam

UGC-LCC2030C Expert Task Force

12

Contact Us



اَوْنِبُوْرَسِيْتِيْ بِاْتِيْكَوْلُوْ كِيْ مَارَا
UNIVERSITI
TEKNOLOGI
MARA

Director

UiTM Green Centre (UGC)

Pejabat Pembangunan (Infrastruktur & Infostruktur)

Universiti Teknologi MARA (UiTM)

40450 Shah Alam

Selangor Darul Ehsan, Malaysia.

Website: <https://ppii.uitm.edu.my>

Email: ugc@uitm.edu.my