GREENHOUSE GAS EMISSION REDUCTION PROGRAM

UMPSA provides formal programs covering all three scopes (Scope 1,2, and 3) to reduce greenhouse emissions. Summary of the program:

Scope	Emission data	Description	Evidence
Scope 1	Mobile combustion	CO_2 emission from mobility in 2022: 4,751.59 tCO2e List of program: 1. E-Scooter in both campuses, Gambang and Pekan 2. Centralize parking 3. EV Bus and van	https://mygreen.ump.edu.my/index.php/iniciative1/503-cycling-brings-ump-associates-together https://www.ridebeam.com/newsroom/beam-adds-2-more-universities-in-malaysia
Scope 2	Purchased electricity	CO_2 emission from electricity in 2022: 10,036 kW 6,965.12 tCO_2e List of program: 1. Solar 2. Biodiesel 3. Wind power 4. Hydro power	https://mygreen.ump.edu.my/index.php/sdg-7-affordable-clean-energy/solar-installation-plan https://mygreen.ump.edu.my/index.php/iniciative1/93-ump-s-wind-turbine
Scope 3	Waste	CO_2 emission from waste in 2022: 55.37 tonne x 20 building = 1,107.4tonne 649.52tCO_2e List of program: 1. 3R Program (Reduce, Reuse, Recycle) 2. EKSA Program	https://mygreen.ump.edu.my/index.php/iniciative1/103-program-3r https://www.ump.edu.my/download/ebook-garis-panduan-eksa-2022.pdf
	Purchased Waste	CO_2 emission from water supply purchased in 2022: 1,355,899 m^3 568.12 tCO_2e List of program: 1. Water recycle 2. Lake 3. Smart irrigation system	https://mygreen.ump.edu.my/index.php/recycled-water-ablution-system https://mygreen.ump.edu.my/index.php/lake-water https://mygreen.ump.edu.my/index.php/universiti-malaysia-pahang-rimba-lestari-smart-irrigation-system

PROGRAM RELATED WITH SCOPE 1

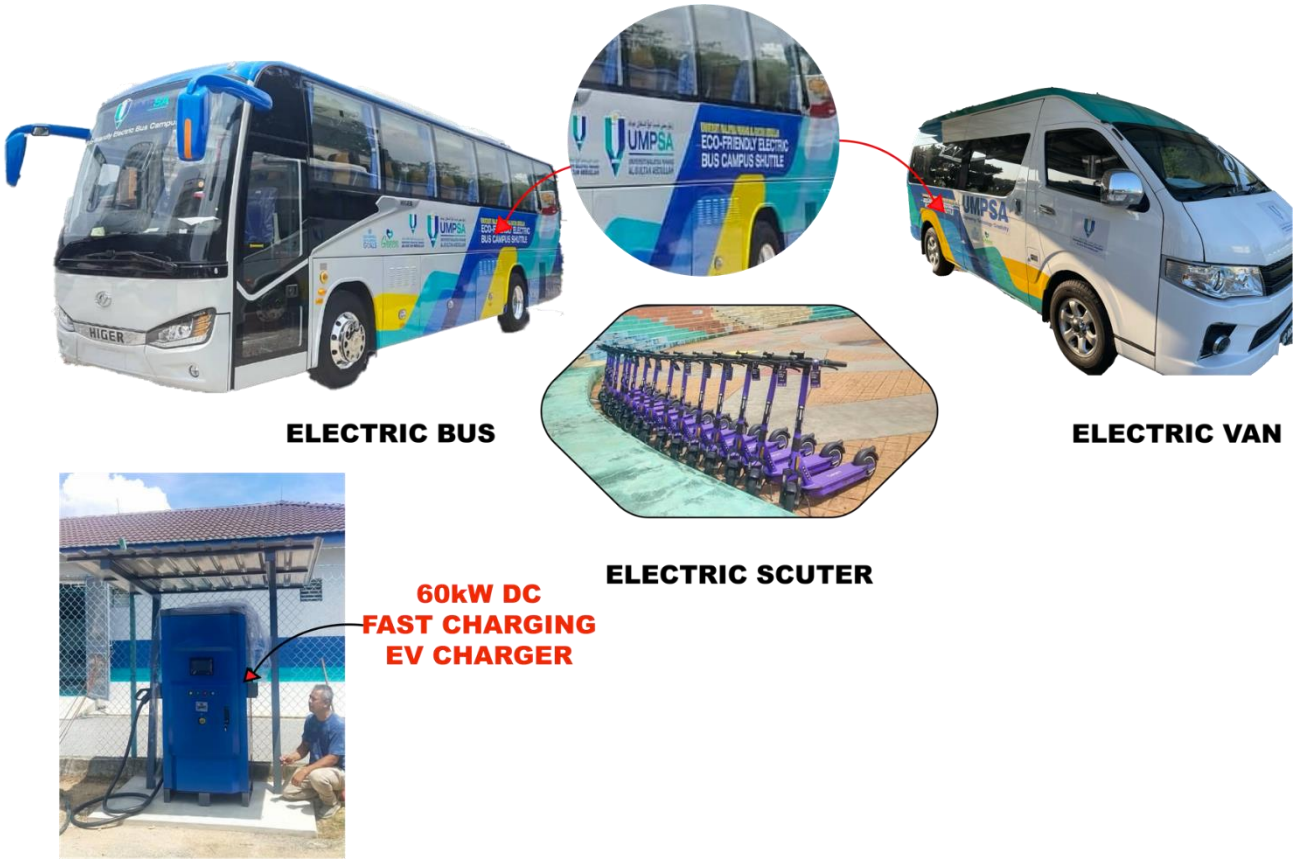
Every year, UMPSA will allocate funds to mitigate the environmental impact of greenhouse gases. Among the programmes are the following:

1. Energy Efficiency. - All electrical equipment at UMPSA must meet with sustainable development requirements and have a star rating, with at least 4 and 5 stars being permitted in UMPSA purchases or tenders. UMPSA's facilities are 99.85% energy efficient.
2. Energy Efficiency in Buildings @ Smart Building. - Because tight criteria and methods to ensure buildings are smart buildings are expensive, UMPSA stipulates that development must comply with smart building criteria.
3. Electric automobiles - UMPSA has two electric vans and two electric buses for students to use to get to class. FTKEE and FTKMA additionally include two electric car units for learning and testing.
4. Low-Carbon Mobility. UMPSA has 20 electric bicycles for workplace use. For students, there are 200 electric scooters available for rent on campus for daily business needs.
5. 5th. Public transportation. Every hour, the Kuantan Rapid Bus visits the UMPSA campus to transport students to the city.

1. **Electric Vehicles, EV.**

UMPSA continues to make gains in empowering campus sustainability programmes with the purchased of two electric buses and two electric vans for student mobility on campus.

Furthermore, UMPSA residents can rent electric scooters from the BEAM concession firm at a reasonable price. This effort can reduce carbon emissions to the environment, conserve nature, and is also one of UMPSA's measures in promoting EVs throughout Malaysia, particularly in the state of Pahang.



PROGRAM RELATED WITH SCOPE 2

1. Renewable energy generated inside campus

Renewable energy program is one of the CO_2 emissions reduction initiatives by reducing the dependency on conventional fossil fuel energy sources. List of the Renewable Energy Sources in Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA) Campus, in placed by 2023.

No.	Building/Area	Type of Renewable Energy	Year Installed	Capacity, kW	kWh produce year 2022-2023
1	FTKMA & FTKEE	Solar system	2016	21kW	184,396 kWh
2	Solar KP House	Solar system	2018	5kW	5,400 kWh
3	Entrance Guard House	Wind power	2012	22kW	-
4	FKKSA	Biodiesel	2007	30 Litre Biodiesel per 50 Litre cooking oil	-
5	Walkaway (Canseleri to Kafe)	Solar System	2019	2.4kW- off grid	4,964 kWh
6.	Wakf Hut	Solar System	2021	2kW	4,928 kWh
7.	Sea-Lite	Combine heat and power	2022	0.02kW	262.8 kWh
8.	Pico Hydro	Hydro Power	2022	0.39kW	854.1 kWh
9.	FTKMA & FTKEE	Wind Power	2021	250W 250W 800W	9,490 kWh
10.	FTKEE	Solar System	2022	1.5kW	2,094.2kWh
11.	UMPSA PEKAN & GAMBANG	Solar Lighting	2017 - 2022	4kW	17,520 kWh
12.	UMP GAMBANG	Solar Lighting	2023	100W, 12.8V, 60Ah	3,363.84 kWh
13.	FTKEE	Solar System	2019	2.5 kWp	6,205 kWh
14.	FTKMA	Solar System	2016	1.5 kWp	2,094.20 kWh
15.	Wakf Hut	Solar System	2023	1.05 kWp	686.78
16.	Electric Fencing	Solar System	2023	0.5 kWp	294.34
17.	Pusat Kompos	Solar System	2019	3.0 kWp	7,446 kWh
18.	FTKKP	Solar System	2018	10.0 kWp	10,150 kWh
				TOTAL	260,149 kWh

No.	Name	EFFICIENT EFFICIENT EQUIPMENT			
		Total Number	Total (T5)	Total (LED)	SENSOR
	UMP PEKAN				
1	FTKMA	2600	454	2146	22
2	FTKEE	2500	895	1605	20
3	RP5, ASRAMA 648 (3 BLOCKS)	3762		3762	
4	RP5, ASRAMA 1400 (6 BLOCKS)	8389		8389	
5	CTAR	2300	855	1445	24
6	DEWAN SERBAGUNA	1520		1520	
7	PUSAT PEMBANGUNAN & PENGURUSAN HARTA	345	265	80	13
8	RUMAH KAKITANGAN (40)	295	270	25	
9	TAPAK SEMAIAN	83		83	2
10	PENCAWANG 11kV	202		202	
11	LIBRARY	1255	217	1038	36
12	FTKPM	2520	125	2320	24
13	PTMK & PBM	3610	3426	184	32
14	PUSAT KESIHATAN UNIVERSITI	45		45	8
15	MENARA JAM	130		130	
16	RUMAH KAYAK	20		20	
17	SURAU	6		6	6
18	LAKE B JOGGING TRACK	80		80	
19	MAIN ROAD STREET LIGHTING	372		372	
20	MAIN ROAD & COMPOUND LIGHTING HOSTEL	178		178	
21	FKOM	3120		3120	20
22	TEACHING FACTORY	370		370	10
23	GUARD POST (PANTAI LAGENDA)	48		48	
24	GUARD POST (MAIN)	5		5	
	UMP GAMBANG				
1	T8 TO T5 BLOCK A1-A3, B1, B5, C1-C8, C9-C15	12,850		12,850	
2	MAKMAL FKKSA	77		77	
3	PBM	245		245	
4	MAIN ROAD STREET LIGHTING	45		45	
5	FKKSA	1520		1520	
6	FIST	44		44	
	TOTAL	48,536	6,507	41,954	217
	% EFFICIENT APPLICANCES	99.85%			

Replacement of energy efficient or energy saving, Light Emitted Diods, **LED** lights in UMPSA campuses. As per today UMPSA have replaced or installs **99.85%** of energy efficient lights and equipment's in our campus. For EE, UMPSA manage to reduce **7,312,789.52 kWh/year** equivalent **4,673 tonne CO_2.**

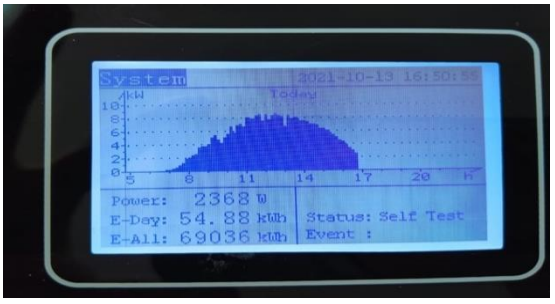
2. Renewable Energy Sources Inside Campus

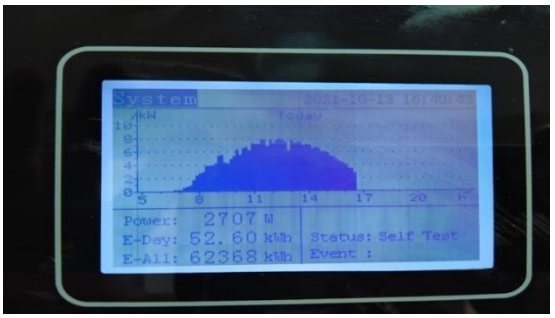
Type: Solar System, UMP Pekan
Location: 1. Faculty of Mechanical Engineering
2. Faculty of Electrical & Electronic Engineering
Description:
Solar power technology has been installed in UMP since 2016. The system consists of 20 kW solar panels on the top of the walkway to supply electricity to the Faculty of Mechanical Engineering's administration blocks.

In 2021, installation of 2.5 kW solar panels in Faculty of Electrical & Electronic Engineering for the education & research purposed. The supply from the solar panel divert to grid supply for the Block 1 FTKEE, UMP Pekan.

This project is one of the CO_2 emissions reduction initiatives by reducing the dependency on conventional fossil fuel energy sources.

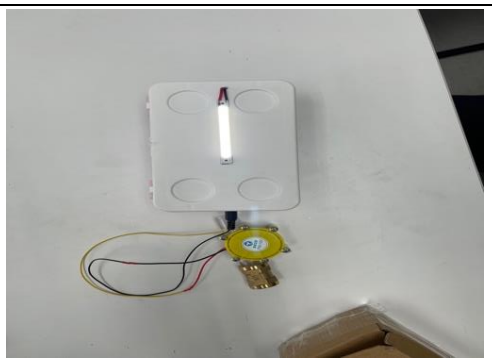
Publicly Evidence Link:
https://mygreen.ump.edu.my/index.php/solar-panels





Type: Solar System **Location: Solar KP House, UMP Green Office in Maran, Pahang** **Description:** This house is UMP's Community One Stop Centre, where the local community get training and classes including religious and academic tuition from UMP staff and students. The system installed is a system connected off grid where the energy generated, produced, delivered, and distributed directly from the solar power to electricity. This solar energy system can generate 5kW of electricity directly and 15kW as a reserve to be used during the night time. The electricity generated at the KP House is able to power all electrical appliances in the house. **Publicly Evidence Link:** https://mygreen.ump.edu.my/index.php/kp-house	  
Type: Wind Power **Location: 1. Entrance Guard House, UMP Pekan** **2. Faculty of Mechanical Engineering** **3. Faculty of Electrical & Electronic Engineering** **Description:** In 2012, a project to test sustainable energy was conducted in Malaysia under the purview of MOSTI and SIRIM Berhad. UMP Pekan Campus, due to its strategic location, was selected as one of the test-site for four wind turbines with the power of 2 kW, 4 kW, 5.8 kW and 10 kW. The campus which is situated near coastal area provides the windy condition which enables the	

turbine to convert the kinetic energy into electrical power efficiently. Total 22kWh. In 2020 & 2021, UMPSA has diversified the study of wind turbines as renewable energy and as a backup supply for the data collection system. At FKM 800W Windturbine has been install and 500W at FTKEE. **Publicly Evidence Link:** http://mygreen.ump.edu.my/index.php/iniciative1/93-ump-s-wind-turbine	 
Type: Biodiesel **Location: Faculty of Chemical & Natural Resources Engineering, UMP Gambang** **Description:** The Faculty of Chemical & Natural Resources Engineering has been producing biodiesel since 2007, based on years of research. On the average, for every two days the faculty collects 50 litres of used cooking oil, to produce 30 litres of pure biodiesel. In one month UMP is therefore capable of producing 450 litres, totaling to 5,400 litres in a year. Taking note that 1 litre of biodiesel weighs 0.875 kg, the total mass of biodiesel produced by UMP in a year is 4,725 kg. The calorific content of the produced biodiesel is 34 MJ/kg, hence ideally generate yearly 160,650 MJ = 44,625 kWh = 44.625 mWh. Based on the installed 10 kW generator, the amount of the biodiesel needed is 2.6 L/h. Hence, the actual (useful) amount of generated electricity is 20,770 kWh (= 10kW X 2077 hours).	

Type : Picohydro **Location : Toilet in Pusat Pembangunan & Pengurusan Harta, UMP Pekan.** This project is the result of the efforts technical teams in this department for the purpose of energy sustainability programmes. Picohydro use as a backup supply for toilet lighting and there is a addition function for phone charging.	 
Type : Sea Lite **Location : Entrance Guard House, UMP Pekan** Sea-Lite is a portable lamp that uses seawater as an electrolyte source. This device is called Sea-Lite referring to the sea that gives light (light or lite). It has a small design, easy to carry and maintain. This device is able to provide light and electricity and is able to last for a long time.	 

Type : Solar
Location : UMP Pekan & UMP Gambang

There are 20 waqfs huts inside UMP Pekan & UMP Gambang equipped with solar systems. This 100W solar produces electricity for lights, phone chargers and there is also a Power Delivery Charger, PD for labtop charging and other electronic devices range 5V - 12V. For phone charging there is 2 options of charging mechanism:

1. Using usb type cable
2. Wireless charging, UMP developed in house.

Wafq Hut (7 units handicapped friendly UMPSA)

There are 7 waqfs huts inside UMP Pekan are handicapped friendly equipped with solar systems. This 100W solar produces electricity for lights and phone. For phone charging there is 2 options of charging mechanism:

1. Using usb type cable
2. Wireless charging.

3. Local community outreach for energy efficiency

KUALA PAHANG HOUSE EQUIPPED WITH SOLAR SYSTEM

Kuala Pahang House, KP House

Program conducted at KP House in 2019

Description:
Kuala Pahang House or KP House in short is a transformational centre for the Kuala Pahang community. There are 66 houses been selected based on strict criteria for the programme. The houses been renovated and all of the electrical appliances have 5 stars energy saving rating installed in the houses. The installation was conducted in 2018 by UMP and the solar system is well monitored by UMP. **Till now, KP house is a one-stop-centre for all kinds of activities that brings benefits to the community in Kampung Kuala Pahang.**

This house is the first "Green House" in Pahang, in which the energy is fully generated using green technology from solar. The 5kW Off Grid System is retrofitted to the roof of the KP House. The 25mm ventilation distance is to ensure that the system will not be overheated. This solar energy system can generate 5kW of electricity directly and 15kW as a reserve to be used during the night time. The electricity generated at the KP House is able to power all electrical appliances in the house.

KP House is also equipped with the energy-saving LED lights, new technology fan operating fully using DC electrical current, which can save electricity more efficiently and also the usage of inverter technology air conditioner with the environmentally friendly R410A gas. The house is also equipped with motion sensors to activate the bathroom lights.

4. SEDA Certification

Date of Issuance : 16 August 2023
SEDA LCB Certificate No: SEDA-LCB 2023/No. 119 (2)

CERTIFICATE 2022

SEDA MALAYSIA SUSTAINABLE ENERGY LOW CARBON BUILDINGS ASSESSMENT GREENPASS OPERATION

Sustainable Energy Development Authority • MALAYSIA •

It is hereby awarded to

UNIVERSITI MALAYSIA PAHANG
Kompleks
Pekan, Pahang

DIAMOND RATING:

Successfully achieved emission reduction of

37.82 %

Equivalent to

4,236.92 tonne CO_2 / year
6,105,074.0 kWh / year

Baseline year : **2016** Reporting year : **2022** (absolute reduction)
Assessment boundary : Operational Energy (Energy only) based on Common Carbon Metric & GreenPASS assessment method

(Dato' Hamzah bin Hussin)
Chief Executive Officer
Sustainable Energy Development Authority
(SEDA) Malaysia

*This certificate is a voluntary initiative by SEDA Malaysia to promote energy saving & carbon reduction and does not intended for any other purposes

save

5. Trees planting and inventory

List of plants in UMPSA Gambang & Pekan campus, in total **13,944** numbers of plants in both campus, that can reduce CO_2 production around **418.32 tonne CO_2.**

BORANG INVENTORI

DISELIA OLEH : UMP SERVICES SDN BHD
KAWASAN SELIAAN : UMP GAMBANG
TAHUN : 2022

JUMLAH POKOK MENGIKUT JENIS DAN LOKASI

BIL	NAMA POKOK	JENIS POKOK	LOKASI	JUMLAH
1	WEEPING FIG (FICUS BENJAMINA)	TREE	RP 1 DAN RP 3	30
2	YELLOW POINCIANA (PELTOPHORUM PTEROCARPUM)	TREE	RP 1 DAN RP 3	9
3	CACAO TREE (THEOBROMA CACAO)	TREE	RP 1 DAN RP 3	16
4	TROPICAL ALMOND (TERMINALIA CATTAPA)	TREE	RP 1 DAN RP 3	10
5	FLAME OF THE WOOD (IXORA COCCINEA)	SHRUBS	RP 1 DAN RP 3	125
6	CHINESE HIBISCUS (HIBISCUS ROSA-SINERSIS)	SHRUBS	RP 1 DAN RP 3	150
7	CHINESE FAN PALM (LEVISTONA CHINENSIS)	PALM	KPS	12
8	FOXTRAIL PALM (WODYETIA BIFURCATA)	PALM	KPS	9
9	NORTHERN CATALPA (CATALPA SPECIOSA)	TREE	KPS	13
10	ARECA PALM (ARECA CATHECHU)	PALM	KPS	9
11	LADY PALMS (RHAPIS EXCELSO)	PALM	KPS	40
12	FLAME OF THE WOOD (IXORA COCCINEA)	SHRUBS	KPS	10
13	BUDDHIST PINES (PODOCARPUS MACROPHYLLUS)	TREE	KPS	10
14	JOSEPH COAT (CODIAEUM VARIEGATUM)	SHRUBS	KPS	15
15	ORANGE JASMINE(MURAYYA PANICULLATA)	SHRUBS	KPS	15
16	PAMPANO(CALATHEA LATEA)	SHRUBS	KPS	40
17	ARROW BAMBO(PSEUDOSASA JAPANICA)	GRASS	KPS	70
18	COCONUT PALM	PALM	KPS	5
19	NARROW ASH LEAVES	TREE	BLOK X,Y,Z,M	7
20	CUBAN ROYAL PALM	PALM	BLOK X,Y,Z,M	7
21	WEEPING FIG (FICUS BENJAMINA)	TREE	BLOK X,Y,Z,M	12
22	ARECA PALM (ARECA CATHECHU)	PALM	BLOK X,Y,Z,M	10
23	NORTHERN CATALPA (CATALPA SPECIOSA)	TREE	BLOK X,Y,Z,M	7
24	KELAT PAYA (EUGENIA OLEINA)	SHRUBS	JALAN UTAMA	2879
25	FICUS GOLD	TREE	JALAN UTAMA	89
26	BUNGA KERTAS (BOUGAINVILLEA)	SHRUBS	JALAN UTAMA	30
27	WEEPING FIG (FICUS BENJAMINA)	TREE	JALAN UTAMA	50
28	WOMAN TONGUE (ALBIZIA LEBBECK	TREE	JALAN UTAMA	140
29	NORFOLK ISLAND PINE (ARAUCARIA HETEROPHYLLA)	PINE	JALAN UTAMA	18
30	BUCIDA VARIEGATED	TREE	MAKMAL BIO	20
31	BEACH SPIDER LILY (HYMENOCALLIS LITTORALLIS)	SHRUBS	MAKMAL BIO	60
32	TROPICAL ALMOND (TERMINALIA CATTAPA)	TREE	MAKMAL BIO	23
33	KELAT PAYA (EUGENIA OLEINA)	SHRUBS	KSU	15
34	KELAT PAYA (EUGENIA OLEINA)	SHRUBS	CANSELERI	60
35	TROPICAL ALMOND (TERMINALIA CATTAPA)	TREE	CANSELERI	17
36	ARECA PALM (ARECA CATHECHU)	PALM	CANSELERI	14
37	CABBAGE TREE (CORDYLINE AUSTRALIS)	TREE	CANSELERI	6
38	ITALIAN CYPRESS(CUPRESSUS SEMPERVIRENS)	TREE	CANSELERI	14
39	BEACH SPIDER LILY (HYMENOCALLIS LITTORALLIS)	SHRUBS	KPU	100
40	CUBAN ROYAL PALM	PALM	KPU	23
41	FLAME OF WOOD (IXORA COCCINEA)	SHRUBS	KPU	80
42	WIPPING WILLOW (SALIX BABILONICA)	TREE	KPU	10
43	YELLOW BUTTERFLY PALM(DYPSIS LUTESCENS)	TREE	KPU	35
44	WEEPING FIG (FICUS BENJAMINA)	TREE	KPU	10
	JUMLAH KESELURUHAN			**4324**

DISEDIAKAN OLEH ,

MUHAMMAD AZIZ ASYRAF BIN AHMAD
Supervisor Landscape
UMP Services Sdn Bhd

DISAHKAN OLEH,

HAIRUDDIN BIN IDRIS
Senior Executive
UMP Services Sdn Bhd

INVENTORI POKOK TEDUHAN LANDSKAP DI SEKITAR KAMPUS UNIVERSITI MALAYSIA PAHANG, PEKAN.

PETUNJUK

POKOK TEDUHAN
POKOK BUAH
POKOK HUTAN
POKOK NADIR

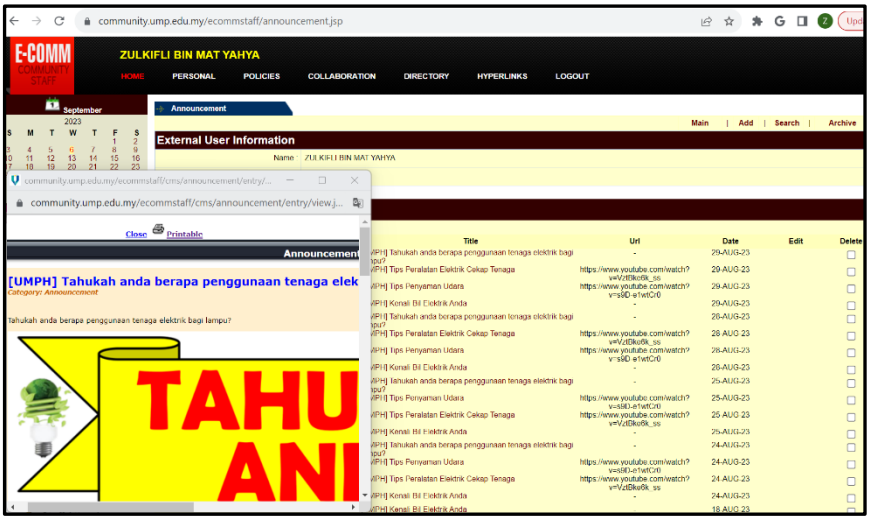
BIL.	TAHUN	TAJUK/SEBUT HARGA	JENIS POKOK	KUANTITI	LOKASI
1.	2009	Projek pembangunan awal FKEE & FKM (GREEN EFFECT SDN> BHD.)	POKOK HUJAN-HUJAN@Samanea saman	580	LALUAN UTAMA
2.	2015	Kerja-kerja penanaman pokok di sepanjang kawasan Universiti boulevard serta kerja-kerja berkaitan di Universiti Malaysia Pahang, Pekan)	BATAI LAUT@Peltophorum pterocarpum	21	
			POKOK KHAYA@Khaya senegalensis	59	
			TAMALANI@Calophyllum inophyllum	49	
			TAMALANI@Calophyllum inophyllum	51	
			POKOK DONI@Durio malaccensis	13	
			MAMBU@Azadirachta indica	44	
			BATAI LAUT@Peltophorum pterocarpum	29	
			POKOK RHU@Casuarina equisetifolia	17	
			POKOK PINE@Araucaria excelsa	13	
			BUCIDA TIKUS@Diospyros buxifolia	6	
			MEMPARI@Pongamia pinnata	19	
			MAMBU@Azadirachta indica	20	
			POKOK GELAM@Melaleuca cajeputi	11	
			CEMPAKA PUTIH@Michelia alba	97	ROUND ABOUT (1)
			EUCALYPTUS@Eucalyptus	9	
			PENAGA LILIN@Mesua ferrea	23	ROUND ABOUT (2)
3.	2009	Projek pembangunan awal tasik (JKR)	POKOK RHU@Casuarina equisetifolia	30	TASIK B (Perpustakaan)
			POKOK KELAPA@Cocos nucifera	20	
			BERUS BOTOL@Callistemon viminalis	15	
			PENAGA LILIN@Mesua ferrea	8	
			BATAI LAUT@Peltophorum pterocarpum	15	
			BUNGOR@Lagerstroemia	25	
			ARA BERINGIN@Ficus cerica	25	
			BULUH HIASAN@Bambusa vulgaris	20	
			POKOK HUJAN-HUJAN@Samanea saman	10	
			POKOK SAPU TANGAN@Mimfloa graeciflora	10	
4.	2017	Kerja-kerja penanaman pokok dan membekal hardscapedi kawasan laluan masuk kolej kediaman 5,fakulti, teska,canselli Tun Abdul Razak, wetland di Universiti Malaysia Pahang, Pekan. (UMP/PPHISHI/2017 (37)	JAMDA MERANA@Lagtospermum madiflorum	15	TASIK WETLAND
			MEMPARI@Pongamia pinnata	15	
			TABEBUIA@Tabebuia pallida	15	
			BATAI LAUT@Peltophorum pterocarpum	15	
			POKOK GELAM@Melaleuca cajeputi	10	
5	2022	(Bekal biji benih kelapa pandan untuk Pembangunan Kampus Hijau) (UMP.88.11/11.22/3/0022(36)	POKOK KELAPA@Cocos nucifera(Malaqi	30	
			POKOK KELAPA (PANDAN)	300	
6.	2009 -2014	Projek pembangunan awal tasik (JKR)	POKOK HUJAN-HUJAN@Samanea saman		TASIK C
			POKOK RHU@Casuarina equisetifolia	28	
			POKOK RHU@Casuarina equisetifolia	15	TASIK D
			MAMBU@Azadirachta indica	2	
7.	2018	Kursus penanaman pokok hutan bersama FRIM dan membekal pokok hutan (UMP/ISEND/RT/2018(0)	MERANTI TEMBAGA	117	RIMBA LESTARI
			MERANTI TEMAK NIPIS	246	
			KETAPANG	25	
			PELANGI (MERAH)	25	
			JELUTONG	50	
			BERUAS	50	
			KUUM	49	
			SUNGKAI	50	
			KANDIS	48	
			KALUMPANG	10	
			KELADAN	133	
			CENGAL	56	
			MERBAU	50	
			KARAS	50	
			BUNGA TANJUNG@Mimusops elangi	150	
			POKOK PELURU	1	
			RAMBAI	54	
			BUNGOR	50	
			DILLENIA RETICULATA/SUFFRUTICOSA	52	
			TONGKAT ALI	25	
			SENTUL	15	
			MERANTI KEPONG	49	
			MERANTI RAMBAI DAUN	50	
			KUNDANG	36	
			TULANG DAING	16	
			EUKALIPTUS	51	
			GELAM	1518	

23.	2012	Projek pembangunan awal (JKR)	BATAI LAUT@Peltophorum pterocarpum	146	KOLEJ KEDIAMAN 5
			SEMARAK API@Delonix regia	4	
			POKOK SAPU TANGAN@Maniltoa grandiflora	52	
			JAMBU@Azadirachta indica	95	
			KAKIA PAYUNG@Filicium decipiens	80	
			BUNGA TANJUNG@Mimusops elengi	61	
			JAMBU LAUT@Syzygia grandis	88	
			TAMALAN@Dalbergia olivri	17	
			GOLDEN SHOWER@Cassia fistula	21	
			POKOK RHU@Casuarina equisetifolia	5	
			POKOK RHU BORNEO@Gymnostoma nobile	1	
			GOLDEN PENDA@Xanthostemon chrysanthus	18	
			PALMA EKOR MUSANG@Wodyetia bifurcata	82	
			PALMA MANILA@Veitchia merrill	29	
			PALMA RAJA@Roystonea regia	14	
			MERAWAN SIPUT JANTAN@Hopea odorata	14	
			AFRICAN TULIP@Spathodea campanulata	1	
			BERUS BOTOL@Callistemon citrinus	2	
			TECOMA@Tabebuia rosea	46	
			BUNGOR@Lagerstroemia	2	
			POKOK GELAM@Melaleuca cajeputi	7	
			JACARANDA@Jacaranda Mimosifolia	17	
			POKOK DURI@Cassia|pleia coriaria	41	
24.	2012	Projek pembangunan awal (JKR)	POKOK DOA@Bucida molinetii	124	FKP
			LEOPARD TREE@Caesalpinia Ferrea	46	
			PULAI@Alstonia scholaris	88	
			POKOK KAYU MANIS@Cinnamomum spp.	10	
			PALMA SERDANG@Livistona rotundifolia	44	
			MERAWAN SIPUT JANTAN@Hopea odorata	94	
25.	2012	Projek pembangunan awal (JKR)	JAMBU LAUT@Syzygia grandis	46	FKEE
			BINTANGOR LAUT Calophyllum inophyllum	115	
			JAMBU@Azadirachta indica	4	
			POKOK HUJAN-HUJAN@Samanea saman	5	
26.	2012	Projek pembangunan awal (JKR)	JAMBU LAUT@Syzygia grandis	85	FKM
			BINTANGOR LAUT Calophyllum inophyllum	82	
			JAMBU@Azadirachta indica	10	
			BLACK OLIVE@Bucida buceras	20	
			BATAI LAUT@Peltophorum pterocarpum	3	
			POKOK HUJAN-HUJAN@Samanea saman	5	
27.	2020	Projek Penanaman Pokok Landskap FKOM 'UMP/PPH/SH/2020 (18)	POKOK DOA@Bucida molinetii	28	FKOM
			POKOK DOA@Bucida molinetii (Variegated leaf)	11	
28.	2016	PROJEK PEMBINAAN KILANG GELATIN HALAL - KERJASAMA MARA	BATAI LAUT@Peltophorum pterocarpum	23	GELETIN HALAL
29.	2017	PROJEK PEMBINAAN BANGUNAN TEACHING FACTORY	POKOK DOA@Bucida molinetii	3	TEACHING FACTORY
			BATAI LAUT@Peltophorum pterocarpum	17	
30.	PEMBANG	PROJEK RUMAH 40	TAMALAN@Dalbergia latifolia	18	KEDIAMAN 40
31		PROJEK PEMBANGUNAN CTAR - JABATAN KERJA RAYA	MERAWAN SIPUT JANTAN@Hopea odorata	182	CTAR
			BUNGA TANJUNG@Mimusops elengi	152	
			PALMA EKOR MUSANG@Wodyetia bifurcata	49	
			CEMPAKA PUTIH@Michelia alba	50	
			CEMPAKA KUNING@Michelia champaka linn.	30	
			GOLDEN PENDA@Xanthostemon chrysanthus	15	
32.		PROJEK PEMBANGUNAN DEWAN SERBAGUNA	PALMA EKOR MUSANG@Wodyetia bifurcata	5	DEWAN SERBAGUNA
			PALMA SERDANG@Livistona chinensis	8	
			TAMALAN@Dalbergia olivri	8	
			BATAI LAUT@Peltophorum pterocarpum	30	
			PENAGA LILIN@Mesua ferrea	5	
			POKOK SENA@Pterocarpus indicus	24	
33.		ROJEK PEMBANGUNAN jim & jhnp	KELAT JAMBU LAUT	260	JJIM & JHNP
			PUTAT	140	
			KETAPANG	100	
34	2023	PENANAMAN POKOK GAHARU	GAHARU@Aquilaria malaccensis	260	TAPAK GAHARU
JUMLAH POKOK KESELURUHAN (NOS)				**9620**	

6. UMPSA Green Awareness Initiatives

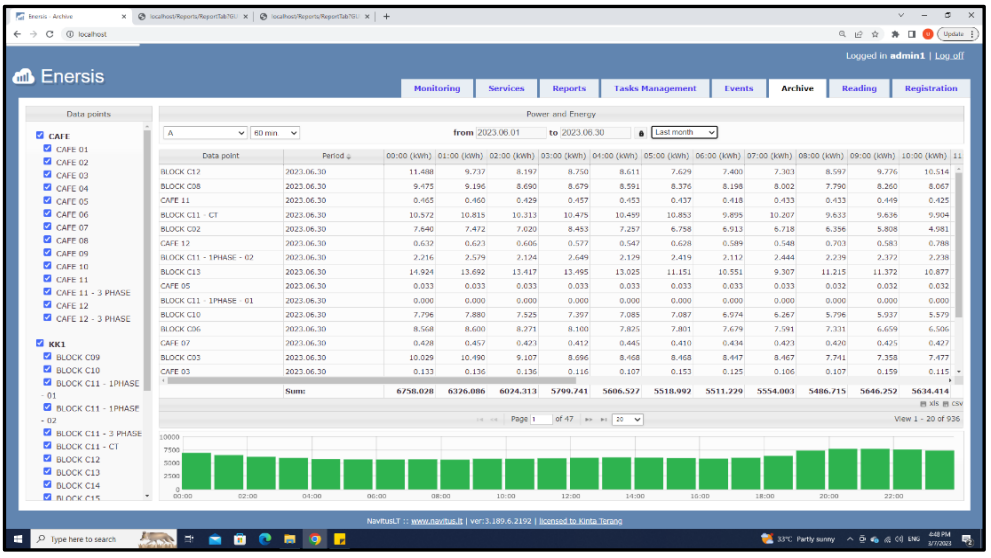
Untuk mengira anggaran penggunaan tenaga bulanan, maklumat yang diperlukan adalah kuasa bagi setiap peralatan, tempoh penggunaan setiap peralatan dan bilangan hari penggunaan. Bagi mengurangkan kos penggunaan tenaga, perancangan tempoh penggunaan sesuatu barangan elektrik memainkan peranan penting. Dengan mengurangkan tempoh penggunaan barang elektrik tersebut hannya mengikut keperluan dan mengelakkan pembaziran, ia akan mengurangkan kos penggunaan tenaga elektrik.

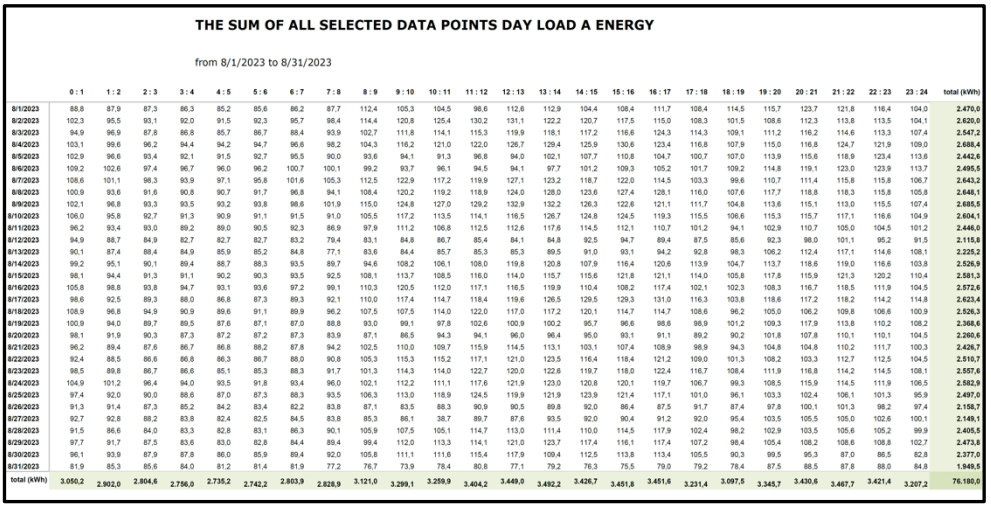
Dilampirkan bersama, kaedah pengiraan untuk penggunaan tenaga elektrik:



7. **Awareness talk/sharing to UMPSA staffs & students.**

8. Realtime Data Smart Meter for electrical power usage monitoring.

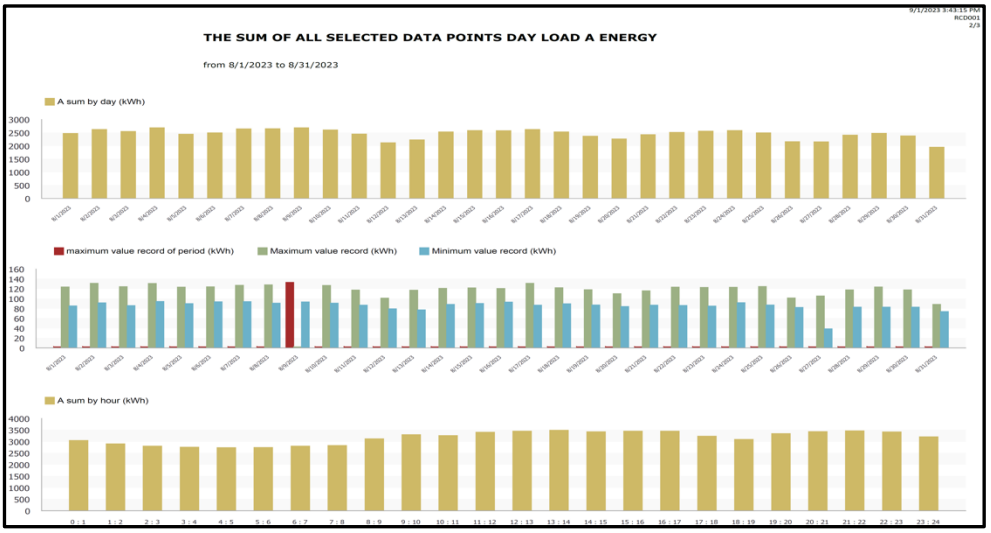




THE SUM OF ALL SELECTED DATA POINTS DAY LOAD A ENERGY

from 8/1/2023 to 8/31/2023

	0 : 1	1 : 2	2 : 3	3 : 4	4 : 5	5 : 6	6 : 7	7 : 8	8 : 9	9 : 10	10 : 11	11 : 12	12 : 13	13 : 14	14 : 15	15 : 16	16 : 17	17 : 18	18 : 19	19 : 20	20 : 21	21 : 22	22 : 23	23 : 24	total (kWh)
8/1/2023	88,8	87,9	87,3	86,3	85,2	85,6	86,2	87,7	112,4	105,3	104,5	98,6	112,6	112,9	104,4	108,4	111,7	108,4	114,5	115,7	123,7	121,8	116,4	104,0	2.470,0
8/2/2023	102,3	95,5	93,1	92,0	91,5	92,3	95,7	98,4	114,4	120,8	125,4	130,2	131,1	122,2	120,7	117,5	115,0	108,3	101,5	108,6	112,3	113,8	113,5	104,1	2.620,0
8/3/2023	94,9	96,9	87,8	86,8	85,7	86,7	88,4	93,9	102,7	111,8	114,1	115,3	119,9	118,1	117,2	116,6	124,3	114,3	109,1	111,2	116,2	114,6	113,3	107,4	2.547,2
8/4/2023	103,1	99,6	96,2	94,4	94,2	94,7	96,6	98,2	104,3	116,2	121,0	122,0	126,7	129,4	125,9	130,6	123,4	116,8	107,9	115,0	116,8	124,7	121,9	109,0	2.688,4
8/5/2023	102,9	96,6	93,4	92,1	91,5	92,7	95,5	90,0	93,6	94,1	91,3	96,8	94,0	102,1	107,7	110,8	104,7	100,7	107,0	113,9	115,6	118,9	123,4	113,6	2.442,6
8/6/2023	109,2	102,6	97,4	96,7	96,0	96,2	100,7	100,1	99,2	93,7	96,1	94,5	94,1	97,7	101,2	109,3	105,2	101,7	109,2	114,8	119,1	123,0	123,9	113,7	2.495,5
8/7/2023	108,6	101,1	98,3	93,9	97,1	95,8	101,6	105,3	112,5	122,9	117,2	119,9	127,1	123,2	118,7	122,0	114,5	103,3	99,6	110,7	111,4	115,8	115,8	106,7	2.643,2
8/8/2023	100,9	93,6	91,6	90,8	90,7	91,7	96,8	94,1	108,4	120,2	119,2	118,9	124,0	128,0	123,6	127,4	128,1	116,0	107,6	117,7	118,8	118,3	115,8	105,8	2.648,1
8/9/2023	102,1	96,8	93,3	93,5	93,2	93,8	98,6	101,9	115,0	124,8	127,0	129,2	132,9	132,2	126,3	122,6	121,1	111,7	104,8	113,6	115,1	113,0	115,5	107,4	2.685,5
8/10/2023	106,0	95,8	92,7	91,3	90,9	91,1	91,5	91,0	105,5	117,2	113,5	114,1	116,5	126,7	124,8	124,5	119,3	115,5	106,6	115,3	115,7	117,1	116,6	104,9	2.604,1
8/11/2023	96,2	93,4	93,0	89,2	89,0	90,5	92,3	86,9	97,9	111,2	106,8	112,5	112,6	117,6	114,5	112,1	110,7	101,2	94,1	102,9	110,7	105,0	104,5	101,2	2.446,0
8/12/2023	94,9	88,7	84,9	82,7	82,7	82,7	83,2	79,4	83,1	84,8	86,7	85,4	84,1	84,8	92,5	94,7	89,4	87,5	85,6	92,3	98,0	101,1	95,2	91,5	2.115,8
8/13/2023	90,1	87,4	88,4	84,9	85,9	85,2	84,8	77,1	83,6	84,4	85,7	85,3	85,3	89,5	91,0	93,1	94,2	92,8	98,3	106,2	112,4	117,1	114,6	108,1	2.225,2
8/14/2023	99,2	95,1	90,1	89,4	88,7	88,3	93,5	89,7	94,6	108,2	106,1	108,0	119,8	120,8	107,9	116,4	120,6	113,9	104,7	113,7	118,6	119,0	116,6	103,8	2.526,9
8/15/2023	98,1	94,4	91,3	91,1	90,2	90,3	93,5	92,5	108,1	113,7	108,5	116,0	114,0	115,7	115,6	121,8	121,1	114,0	105,8	117,8	115,9	121,3	120,2	110,4	2.581,3
8/16/2023	105,8	98,8	93,8	94,7	93,1	93,6	97,2	99,1	110,3	120,5	112,0	117,1	116,5	119,9	110,4	108,2	117,4	102,1	102,3	108,3	116,7	118,5	111,9	104,5	2.572,6
8/17/2023	98,6	92,5	89,3	88,0	86,8	87,3	89,3	92,1	110,0	117,4	114,7	118,4	119,6	126,5	129,5	129,3	131,0	116,3	103,8	118,6	117,2	118,2	114,2	114,8	2.623,4
8/18/2023	108,9	96,8	94,9	90,9	89,6	91,1	89,9	96,2	107,5	107,5	114,0	122,0	117,0	117,2	120,1	114,7	114,7	108,6	96,2	105,0	106,2	109,8	106,6	100,9	2.526,3
8/19/2023	100,9	94,0	89,7	89,5	87,6	87,1	87,0	88,8	93,0	99,1	97,8	102,6	100,9	100,2	95,7	96,8	98,6	98,9	101,2	109,3	117,9	113,8	110,2	108,2	2.366,6
8/20/2023	98,1	91,9	90,3	87,3	87,2	87,2	87,3	83,9	87,1	86,5	94,3	94,1	96,0	96,4	95,0	93,1	91,1	89,2	90,2	101,8	107,8	110,1	110,1	104,5	2.260,6
8/21/2023	96,2	89,4	87,6	86,7	86,8	88,2	87,8	94,2	102,5	110,0	109,7	115,9	114,5	113,1	103,1	107,4	108,9	98,9	94,3	104,8	104,8	110,2	111,7	100,3	2.426,7
8/22/2023	92,4	88,5	86,6	86,8	86,3	86,7	88,0	90,8	105,3	115,3	115,2	117,1	121,0	123,5	116,4	118,4	121,2	109,0	101,3	108,2	103,3	112,7	112,5	104,5	2.510,7
8/23/2023	98,5	89,8	86,7	86,6	85,1	85,3	88,3	91,7	101,3	114,3	114,0	122,7	120,0	122,6	119,7	118,0	122,4	116,7	108,4	111,9	116,8	114,2	114,5	108,1	2.557,6
8/24/2023	104,9	101,2	96,4	94,0	93,5	91,8	93,4	96,0	102,1	112,2	111,1	117,6	121,9	123,0	120,8	120,1	119,7	106,7	99,3	108,5	115,9	114,5	111,9	106,5	2.582,9
8/25/2023	97,4	92,0	90,0	88,6	87,0	87,3	88,3	93,5	106,3	113,0	118,9	124,5	119,9	121,9	123,9	121,4	117,1	101,0	96,1	103,3	102,4	106,1	101,3	95,9	2.497,0
8/26/2023	91,3	91,4	87,3	85,2	84,2	83,4	82,2	83,8	87,1	83,5	88,3	90,9	90,5	89,8	92,0	86,4	87,5	91,7	87,4	97,8	100,1	101,3	98,2	87,4	2.158,7
8/27/2023	92,7	92,8	88,2	83,8	82,4	82,5	84,5	83,8	85,3	86,1	38,7	89,7	87,6	93,5	92,0	90,4	91,2	92,0	95,4	103,5	105,5	105,0	102,6	100,1	2.149,1
8/28/2023	91,5	86,6	84,0	83,3	82,8	83,1	86,3	90,1	105,9	107,5	105,1	114,7	113,0	111,4	110,0	114,5	117,9	102,4	98,2	102,9	103,5	105,6	105,2	99,9	2.405,5
8/29/2023	97,7	91,7	87,5	83,6	83,0	82,8	84,4	89,4	99,4	112,0	113,3	114,1	121,0	123,7	117,4	116,1	117,4	107,2	98,4	105,4	108,2	108,6	108,8	102,7	2.473,8
8/30/2023	96,1	93,9	87,9	87,8	86,0	85,9	89,4	92,0	105,8	111,1	111,6	115,4	117,9	109,4	112,5	113,8	113,4	105,5	90,3	99,5	95,3	87,0	86,5	82,8	2.377,0
8/31/2023	81,9	85,3	85,6	84,0	81,2	81,4	81,9	77,2	76,7	73,9	78,4	80,8	77,1	79,2	76,3	75,5	79,0	79,2	78,4	87,5	88,5	87,8	88,0	84,8	1.949,5
total (kWh)	3.050,2	2.902,0	2.804,6	2.756,0	2.735,2	2.742,2	2.803,9	2.828,9	3.121,0	3.299,1	3.259,9	3.404,2	3.449,0	3.492,2	3.426,7	3.451,8	3.451,6	3.231,4	3.097,5	3.345,7	3.430,6	3.467,7	3.421,4	3.207,2	76.180,0



THE SUM OF ALL SELECTED DATA POINTS DAY LOAD A ENERGY

from 8/1/2023 to 8/31/2023

A sum by day (kWh)

maximum value record of period (kWh) | Maximum value record (kWh) | Minimum value record (kWh)

A sum by hour (kWh)

PROGRAM RELATED WITH SCOPE 3

1. List of Initiatives

2. MySUN Program

Promotion of MYSUN MOOC Courses: Massive Open Online Course (MOOC) on Sustainability Campus. *MYSUN: Bringing Future Campus Today*

Sustainability Campaign

Campaign on Tree Planting

Sustainability Workshop

MYSUN Sustainability Workshop & Management Meeting

MYSUN National Conference & Workshop

MYSUN 1st National Conference

Additional evidence link:
https://mygreen.umpsa.edu.my/index.php/kp-house
https://news.umpsa.edu.my/community/kp-house-centre-attraction-among-kuala-pahang-residents
https://news.umpsa.edu.my/community/perpustakaan-mini-di-pusat-sehenti-komuniti-kp-house-pupuk-budaya-minat-membaca

FB link :

https://www.facebook.com/umpsamalaysia/posts/654587046701074
https://www.facebook.com/YayasanUMP/posts/681819910649644
https://www.facebook.com/umpsamalaysia/posts/663332775826501
https://www.facebook.com/photo.php?fbid=663327549160357&set=pb.100064493538038.-2207520000&type=3
https://www.facebook.com/umpsamalaysia/posts/666346255525153
https://www.facebook.com/photo.php?fbid=666344628858649&set=pb.100064493538038.-2207520000&type=3
https://www.facebook.com/photo.php?fbid=657146323111813&set=pb.100064493538038.-2207520000&type=3
https://www.facebook.com/umpsamalaysia/posts/655262223300223
https://www.facebook.com/umpsamalaysia/posts/650822520410860
https://www.facebook.com/photo.php?fbid=650817150411397&set=pb.100064493538038.-2207520000&type=3