






UI Green Metric Questionnaire

University : Polytechnic of Road Transportation Safety
Country : Indonesian
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[2] Energy and Climate Change (EC)

[2.1] Energy Efficient Appliances Usage (EC.1)

	
Use of LED lighting throughout dormitory buildings, classrooms, and campus facilities (Polytechnic of Road Transportation Safety, Indonesian)	
	
Use of CCTV and air conditioning throughout dormitory buildings, classrooms, and campus facilities (Polytechnic of Road Transportation Safety, Indonesian)	

Description:

Polytechnic of Road Transportation Safety (PKTJ) is committed to achieving sustainable energy savings across the entire campus through a program of replacing and using energy-efficient equipment. This effort is carried out at two campuses, namely Perintis Campus and Margadana Campus, and covers three main equipment categories: the LED lighting system, the air conditioning (AC) system, and the surveillance camera (CCTV IP Camera) system.



1. LED Lighting System

PKTJ has actively replaced conventional lighting (fluorescent/TL) with LED lights throughout the campus buildings. LED lights are used in various power capacities, ranging from 5 Watts up to 1,000-Watt LED floodlights for outdoor areas. Of the 5,633 light points installed across both campuses, 4,075 units (72.3%) are energy-efficient LED lights, while 1,558 units (27.7%) still use conventional fluorescent/TL lighting, which will be gradually replaced. Perintis Campus has 1,731 LED units out of a total of 2,116 lights, while Margadana Campus has 2,344 LED units out of a total of 3,517 lights.

2. Air Conditioning (AC) System

All buildings at both PKTJ campuses are equipped with AC units to support a comfortable teaching and learning environment. There are currently 394 AC units installed, consisting of 209 units at Perintis Campus and 185 units at Margadana Campus, with capacities ranging from ½ PK to 10 PK. PKTJ is in the process of inventorying and verifying inverter-type (energy-efficient) AC units as part of a phased plan to improve energy efficiency, and the percentage data for efficient equipment will be updated once the verification process is complete.

3. CCTV IP Camera System

The entire surveillance system at PKTJ uses Hikvision digital IP camera technology that operates digitally over a network, replacing the more power-hungry conventional analog CCTV system. A total of 237 active camera units are distributed across Perintis Campus (76 units) and Margadana Campus (161 units), all of which are categorized as energy-efficient devices. This system is equipped with an NVR (Network Video Recorder), which is also more efficient than an analog DVR.

Summary Table – Use of Energy-Efficient Equipment (EC.1)

Equipment	Total Quantity	Quantity of Energy-Efficient Equipment	Percentage
LED Lights Perintis Campus	2116	1731	81.8%
LED Lights Margadana Campus	3517	2344	66.6%
AC – Perintis Campus	209	-	-
AC – Margadana Campus	185	-	-
CCTV IP Camera Perintis Campus	76	76	100%
CCTV IP Camera	161	161	100%



Equipment	Total Quantity	Quantity of Energy-Efficient Equipment	Percentage
Margadana Campus			
Average Percentage (LED Lights + CCTV)			86%

LED lights (all wattages, including LED floodlights) are categorized as energy-efficient equipment. Fluorescent/TL lights are categorized as conventional equipment.

All CCTV units use Hikvision digital IP cameras, which are categorized as energy-efficient devices (updated: April 28, 2026).

Table 1.1 – AC Data, Perintis Campus

No	Building	AC Units by Capacity (PK)							Total Units
		½ PK	1 PK	1½ PK	2 PK	2½ PK	5 PK	10 PK	
1	Mako	5	10	-	4	3	4	-	26
2	Puspita Hall	-	8	-	3	-	1	6	18
3	Gatotkaca	2	6	-	-	-	1	-	9
4	Bima	-	6	-	-	-	1	-	7
5	Perga	5	6	-	-	-	-	-	11
6	Testing Lab	8	-	-	-	-	-	-	8
7	Library	-	-	-	1	2	-	-	3
8	Language Lab	-	1	-	1	-	1	-	3
9	CBT Lab	-	-	-	4	-	-	-	4
10	Mawar	-	14	-	-	-	-	-	14
11	Nakula	-	6	-	-	-	-	-	6



No	Building	AC Units by Capacity (PK)							Total
		½ PK	1 PK	1½ PK	2 PK	2½ PK	5 PK	10 PK	Units
12	Sadewa	-	6	-	-	-	-	-	6
13	Arjuna	-	2	-	-	-	-	-	2
14	Multipurpose Hall	3	-	-	-	-	-	-	3
15	Bougenfile	-	16	-	-	-	-	-	16
16	Garuda	-	60	-	-	-	-	-	60
17	Merpati	-	10	-	-	-	-	-	10
18	Garage	-	2	-	-	-	-	-	2
19	Pati Sari	-	1	-	-	-	-	-	1
-	Perintis Campus Total	23	154	0	13	5	8	6	209

Table 1.2 – AC Data, Margadana Campus

No	Building	AC Units by Capacity (PK)							Total
		½ PK	1 PK	1½ PK	2 PK	2½ PK	5 PK	10 PK	Units
1	Directorate	45	1	-	-	6	-	-	52
2	Clinic	-	-	-	-	-	-	-	0
3	Faculty Building	-	7	-	-	-	-	-	7
4	Indoor	-	10	-	1	5	-	-	16



No	Building	AC Units by Capacity (PK)							Total
		½ PK	1 PK	1½ PK	2 PK	2½ PK	5 PK	10 PK	Units
5	Mahesa	-	27	-	4	-	-	-	31
6	Garuda	-	28	-	4	-	-	-	32
7	Pusbangkar	7	7	-	-	-	-	-	14
8	Spash	-	16	-	-	-	-	-	16
9	Workshop	-	-	3	-	3	-	-	6
10	Lab TRO	-	1	-	-	-	-	-	1
11	Lab MKTJ	-	10	-	-	-	-	-	10
-	Margadana Campus Total	52	107	3	9	14	0	0	185
TOTAL AC (Perintis + Margadana)									394



Table 2.1 – Recap of Lighting Equipment by Campus

Location	LED Lights							Fluorescent/TL		Sub-Total Fluorescent	Grand Total
	5W	12W	18W	20W	23W	30W	Sub-Total LED	18W	36W	Sub-Total Fluorescent	Total Lights
Perintis Campus	65	1517	121	4	-	3	1731	-	385	385	2116
Margadana Campus	-	2298	-	-	-	40	2344	176	997	1173	3517
TOTAL	65	3815	121	4	-	43	4075	176	1382	1558	5633

Note:

1. LED floodlight 50W: Perintis = 7, Margadana = 2
2. LED floodlight 100W: Perintis = 9, Margadana = 4
3. LED floodlight 1,000W: Perintis = 5, Margadana = 0

All types of LED lights (including LED floodlights) are categorized as energy-efficient equipment. 18W and 36W fluorescent/TL lights are categorized as conventional.



Table 3.1 – CCTV Camera Recap by Location

No.	Location	Number of Cameras	Condition	Area
Campus 1 – Perintis				
1	PKTJ Outdoor	11	Active	-
2	Nakula-Sadewa Classroom Block	9	Active	Nakula 400 Sadewa 300
3	Mawar Classroom	5	Active	800
4	Merpati Dormitory	6	Active	240
5	Garuda Dormitory	8	Active	1800
6	Bougenvile Dormitory	3	Active	700
7	Angrek Dormitory	3	Active	600
8	Tanjung Dormitory	6	Active	1800
9	Melati Dormitory	3	Active	600
10	Flamboyan Dormitory	1	Active	600
11	Mako	3	Active	900
12	Bimtar	1	Active	250
13	Language Lab	2	Active	70
14	CBT Lab	1	Active	70



No.	Location	Number of Cameras	Condition	Area
15	Library	3	Active	70
16	Hall	4	Active	1000
17	TKO	2	Active	1.600
18	GOR	5	Active	1.000
	Total Campus 1 (Perintis)	76	Active	12.800
Campus 2 – Margadana				
1	PKTJ Outdoor	21	Active	-
2	Pedati Dormitory	7	Active	3.240
3	Bendi Dormitory	4	Active	3.240
4	Sembrani Dormitory	4	Active	3.150
5	Wahana Dormitory	7	Active	3.150
6	Kencana Dormitory	4	Active	3.150
7	Turangga Dormitory	7	Active	3.150
8	Taksaka Dormitory	7	Active	5.616
9	Jatayu Dormitory	7	Active	5.616
10	Mahesa Building	29	Active	2.528



No.	Location	Number of Cameras	Condition	Area
11	Garuda Building	29	Active	2.800
12	Rectorate	3	Active	2.924
13	Bimtar	2	Active	278
14	PKD	2	Active	West 36 East 52
15	Dining Hall	4	Active	1.300
16	Library-Canteen Building	5	Active	2.053
17	TKO	6	Active	900
18	PKB	4	Active	1.625
19	MKTJ	9	Active	1800
Total Campus 2 (Margadana)		161	Active	46.608
GRAND TOTAL (Both Campuses)		237	Active	59.408

All cameras use Hikvision digital IP camera technology. The monitoring system uses an NVR (Network Video Recorder). All cameras are recorded as active, based on data updated April 28, 2026.