SDG
07
AFFORDABLE AND CLEAN ENERGY

EVIDENCE DOCUMENT | INDICATOR 7.2.2

Upgrade buildings to higher energy efficiency

METRIC 7.2 University measures towards affordable and clean energy

REFERENCE YEAR	COVERAGE	DATE PREPARED
In place by 2025	All campuses and constituent units; existing buildings	4 November 2026

ISSUING OFFICE	EVIDENCE ID
Directorate of Quality Assurance, Head Office	E-07-7.2.2

THE SIR 2027 REQUIREMENT

Does your university as a body have plans to upgrade existing buildings to higher energy efficiency?

01 Statement of Evidence

Bahria University's direct answer to the requirement

Yes. Bahria University has plans to upgrade existing buildings to higher energy efficiency. Its Strategic Management Plan, Objective 5.9, sets annual reviews to identify buildings with high energy consumption (KPI 5.9.3) and building-level electricity reduction targets rising from 5 per cent in 2020-21 to 10 per cent in 2024-25 and 20 per cent in 2029-30 (KPI 5.9.4). On 24 November 2025 the Rector directed energy audits across all campuses and implementation of the recommended conservation measures. The Sustainability and Climate Action Policy (BU-SCAP-2025), effective 7 December 2025, sets a 40 per cent efficiency improvement through retrofit of existing buildings by 2030 (para 3.1), supported by building management systems, LED lighting with smart controls, HVAC efficiency improvements of at least 25 per cent and deep retrofit of buildings older than ten years (para 5.1.2). Its phased programme runs from energy audits in 2025-2026 to completed renewable transition and retrofits in 2030-2035. Para 5.1.1 sets rooftop solar at a minimum 30 per cent of demand by 2027; the phased timeline separately places Phase 2 solar and storage in 2028-2030. The current HSE Policy requires annual energy audits against defined benchmarks (para 6.2(d)), renewable energy KPIs (para 6.2(e)), a gradual campus shift to solar energy and annual environmental audits (para 6.21(c–d)), and solar geysers (para 6.10(g)). Its amendment register records editions in 2021, 2025 and July 2026; the current wording is presented as the reviewed 2026 policy. The Carbon Emissions Management Policy provides a supporting energy and buildings roadmap. Delivery includes 870 kW of solar installed at three campuses in 2024-25, LED and inverter replacements, and 923,403 kWh of on-campus solar generation in 2025.

02 Evidence and Activity Record

Dated facts and records that substantiate the statement

Section 1 presents the HSE Policy, amendment register, complete contents and relevant extracts. Section 2 presents Strategic Management Plan targets and campus progress; Section 3 presents the Rector's November 2025 energy audit directive. Sections 4 and 5 present the Sustainability and Climate Action Policy and Carbon Emissions Management Policy with their building upgrade measures and timelines. Section 6 records delivered upgrades and photographs, and Section 7 summarises the evidence.

TABLE 1 Plans to upgrade existing buildings to higher energy efficiency, in place by 2025

No.	Element	Record	Provision	Date	Evidence
1	Plan in policy	Annual energy audits; renewable KPIs; campus solar transition; environmental audits; solar geysers	Campus-wide upgrade duty	2025 edition; reviewed 22 Jul 2026	HSE paras 6.2(d–e), 6.10(g), 6.21(c–d)
2	Energy audits	Annual energy audits against defined efficiency benchmarks	Annual	22 Jul 2026	HSE Policy, para 6.2(d) (2026)
3	Strategic plan targets	Annual review identifies high-consumption buildings; renewable energy and efficient systems reduce building electricity requirements	5% (2020-21), 10% (2024-25), 20% (2029-30)	Since 2020-21	Strategic Management Plan, KPIs 5.9.3 and 5.9.4
4	Directive, 2025	Campus energy audits; conservation measures implemented by facility teams; follow-up audits	Director Admin	24 Nov 2025	Rector's Action Points, item 7
5	Retrofit target	Existing building retrofit: 40% efficiency improvement by 2030; energy use intensity 30% lower by 2030 and 50% by 2040	40 per cent by 2030	Effective 7 Dec 2025	SCAP, paras 3.1 and 8.2
6	Retrofit measures	BMS; LED with smart controls; HVAC efficiency improvement of at least 25%; deep retrofit of buildings older than ten years	All facilities	Effective 7 Dec 2025	SCAP, para 5.1.2; CEMP, para 6.2
7	Solar on existing buildings	SCAP 5.1.1: rooftop solar meets 30% of demand by 2027. Separate phased timeline: Phase 2 solar and storage, 2028–2030; diesel phase-out and solar water heating.	30 per cent of demand	SCAP effective 7 Dec 2025	SCAP, paras 5.1.1 and 5.1.3; CEMP, para 6.2
8	Timeline	Audits and solar feasibility 2025–2026; solar phases 2026–2030; transition and efficiency retrofits completed 2030–2035	Phased programme	2025 to 2035	SCAP, Pillar 1 timeline; CEMP roadmap
9	Delivery	870 kW solar installed; LED and inverter replacements; 923,403 kWh solar generation; Lahore reports 10% electricity reduction	Under way	2024-25; 2025	Sections 2 and 6

1. Health Safety and Environment Policy

The HSE Policy amendment register records a first edition of 15 November 2021, a second edition of 22 November 2025 under the Director Admin, and a third edition of 22 July 2026 (BU-HO/Admin/2026/827). The current third edition is reproduced below. Its requirements are presented as the reviewed policy, separately from the dated implementation records.

The policy applies to all premises, operations and activities under University control (para 1.3), and to the Head Office, campuses and constituent units (para 1.6). Para 6.2 requires annual energy audits with defined efficiency benchmarks (d) and measurable KPIs for renewable energy adoption (e), alongside a climate action plan and carbon reduction targets (a–c).

All campuses are to shift gradually to solar energy (para 6.21(c)); annual environmental audits inform revision of each campus Environmental Management Plan (para 6.21(d)). Solar geysers are to replace gas-dependent geysers for winter water heating (para 6.10(g)). Campus Directors implement and audit their Environmental Management Plans, supported by Earth and Environment Sciences (para 6.3).

1. HSE Policy continued


BAHRIA UNIVERSITY
ISLAMABAD

BAHRIA UNIVERSITY
أطلبوا العلم
PAKISTAN

BU HEALTH, SAFETY AND ENVIRONMENT POLICY

i

Figure 1: HSE Policy, third edition, PDF page 1: cover.

1. HSE Policy continued

RECORD OF AMENDMENTS

Amendment No	Dated	Authority	Clause (s) Amended	Status
1st Edition	15 Nov 2021	Admin/Safety/2021/3224	-	superseded
2nd Edition	22 Nov 2025	Director Admin	Para 6.17 (second sentence added); Para 6.17.3 (new); Para 6.20.1 (new)	New Print
3rd Edition	22 July 2026	BU-HO/Admin/2026/827	Para 6.17 (second	New Print

Note: Amendments are to be recorded, cross-checked and their incorporation in the document authenticated (with name, designation, and signatures).

ii

Figure 2: HSE Policy, third edition, PDF page 2: Record of Amendments: first edition 15 November 2021; second edition 22 November 2025; third edition 22 July 2026.

1. HSE Policy continued

TABLE OF CONTENTS

CHAPTER 1 - INTRODUCTION TO SAFETY POLICY		**1**
1.1	Safety Policy	1
1.2	Policy Statement	1
1.3	Policy Framework	1
1.4	Aim	1
1.5	Preamble	1
1.6	Applicability	1
1.7	Conflict in Orders/ Duties	1
1.8	Understanding Safety	2
1.9	Occurrence	2
1.10	Reporting an Occurrence	2
1.11	Investigating an Occurrence	2
1.12	Risk Management Process	2
1.13	Steps of Risk Management	2
1.14	Safety Check-List	4
1.15	Reference Publications	4
1.16	Feedback	4
CHAPTER 2 - ORGANIZATION AND MANAGEMENT		**5**
2.1	HSE Organization	5
2.2	HSE Management Hierarchy	5
2.3	HSE Officer	5
2.4	Standing HSE Committee (SHC)	6
2.5	Fire Officer	6
2.6	Section In-charges and Onus of Responsibility	6
2.7	Risk Assessment	6
2.8	Reporting Channel	6
2.9	Scrutiny of Civil Works	6
2.10	Duties / Responsibilities	6
2.11	HSE Audit	10
2.12	Work Permit and Conduct of Contractors	10
2.13	HSE Awareness through Community Support Programme	10
2.14	Promoting HSE at Campus	10
2.15	Administration of Persons with Disabilities (PWDS)	11
CHAPTER 3 - FIREFIGHTING		**13**
3.1	Fire Hazard	13
3.2	Firefighting Concept within Bahria University	13
3.3	External Agencies Coordination	13
3.4	Risk Assessment	13
3.5	Layout Plan of Buildings	13
3.6	Fire Audit	13
3.7	External Audit	14
3.8	Combustible Material	14
3.9	Use of Wood and other Inflammable Materials	14
3.10	Gas Leakage Safety	15
3.11	Dangerous Conditions (Fire Safety)	15

iii

Figure 3: HSE Policy, third edition, PDF page 3: Table of Contents, Chapters 1 to 3.

1. HSE Policy continued

3.12	Unwanted Fire Alarm Signals (UFAS)	15
3.13	Actions in Case of Fire Display	16
3.14	Fire Warning System	16
3.15	Duties of Firefighting Officer.	16
3.16	AOR Firefighting Officer BUIC	16
3.17	Composition of Firefighting Teams	16
3.18	Fire Fighting Equipment	17
3.19	Types of Fire and Recommended Fire Extinguishers	17
3.20	Maintenance Responsibility	17
3.21	Maintenance of Portable Fire Extinguishers	17
3.22	Fire Extinguishing Ball	18
3.23	Fire Extinguishing Ball Installation	18
3.24	Fire Pumps	18
3.25	Fire Hose Reels	18
3.26	Alternate Power Supply to Fire Main Pumps	18
3.27	Display of Fire and Emergency Services Contact Numbers	18
3.28	High Fire Risk Areas	19
3.29	Fire and Rescue Vehicle	19
3.30	Laboratories Safeties	19
3.31	Server Rooms Safeties	19
CHAPTER 4 - EMERGENCY EVAUATION		**20**
4.1	Emergency Evacuation Plan and Drills	20
4.2	List of Occupants	20
4.3	Buddy System	20
4.4	In-charge Emergency Evacuation	20
4.5	Access to Buildings	20
4.6	Special People Rescue	21
4.7	Exit Routes	21
4.8	Emergency Muster Area(s)	21
4.9	Calling Numbers for Assistance	21
4.10	Actions on Receiving Fire/Emergency Alarm and Earthquake	21
4.11	Use of Lifts	22
4.12	Emergency Evacuation – Day Care Center	22
4.13	Emergency Evacuation Training	23
CHAPTER 5 - TRAINING		**24**
5.1	Training Organization	24
5.2	Scope of Training	24
5.3	Training Facilities	24
5.4	Role of Students Support Center	24
5.5	HSE Training of Faculty and Staff	24
5.7	Weekly Fire Exercise and Lectures	25
5.8	Emergency Evacuation Drills	25
5.9	Documentation of Training	25
CHAPTER 6 - ENVIRONMENT PROTECTION		**26**
6.1	Importance	26
6.2	Bahria University Environment Policy	26
6.3	Organization	26

iv

Figure 4: HSE Policy, third edition, PDF page 4: Table of Contents, Chapters 3 to 6.

1. HSE Policy continued

6.4	Environmental Management Plan (EMP)	27
6.5	The Purpose of the EMP	27
6.6	Components of the EMP	27
6.7	Scope of EMP	28
6.8	Water Management	28
6.9	Waste / Storm Water Management	28
6.10	Waste Water Minimization and Re-use	29
6.11	Septic Tanks	29
6.12	Solid Waste Management Plan	29
6.13	Principles of Solid Waste Management	30
6.14	Instructions for Solid Waste Disposal	30
6.15	Developing Effective Material Management (from Raw to Waste)	31
6.16	Use of Polythene Shopping Bags	31
6.17	Combating Plastic Pollution in BU	31
6.18	Improving Noise Quality at Campus	31
6.19	Plantation	31
6.20	Pollution Control Technology Management	31
6.21	Reducing Environmental Footprints	31
6.22	Roles and Responsibilities	32
6.23	Director Quality Assurance	32
6.24	Director Campus/ CU HODs	32
6.25	Sustainability Governance	32
6.26	SDG Alignment, Monitoring & Reporting	32
6.27	Local Environment Coordinator	33
6.28	Potable Water Testing	33
CHAPTER 7 - HEALTH		**34**
7.1	Importance	34
7.2	Objective	34
7.3	Policy Framework	34
7.4	Organization	34
7.5	Prevention	34
7.6	Health Care Facilities	37
CHAPTER 8 - MENTAL HEALTH		**39**
8.1	Mental Health	39
8.2	Definition of Mental Health Difficulties	39
8.3	Key Points	39
8.4	Purpose of the Policy	39
8.5	Scope and Limitations	40
8.6	Physical and Mental Health Support Available to Students	40
8.7	Recognizing Mental Health Difficulties	40
8.8	Role of BU Faculty and Staff in Taking Action	40
8.9	Return to Study	40
8.10	Data Maintenance and Confidentiality	41
8.11	Data Linkage with Medical Center	41
8.12	Data Analysis	41
ANNEXES		
A	Occurrence Report Performa	42
B	Risk Assessment Matrix	44

v

Figure 5: HSE Policy, third edition, PDF page 5: Table of Contents, Chapters 6 to 8 and Annexes.

1. HSE Policy continued

C	Safety Check-Lists	45
D	Rights of Persons with Disability (PWDs) Act - 2020	52
E	Gas Leakage Safety Instructions	66
F	Guidelines for Calculating Number of Firefighters	69
G	Types of Fire and Recommended Fire Extinguishers	71
H	HEC Policy/ Guidelines for Universities on COVID-19	72
I	Dengue Prevention	83
J	Hostel Hygiene Check List	85
K	Personal Hygiene - Guidelines	87
L	Sickbay Staff Responsibilities	89
M	Sickbay SOPs	92
N	References/ Authorities	97

Figure 6: HSE Policy, third edition, PDF page 6: Table of Contents, Annexes continued.

1. HSE Policy continued

CHAPTER 1

INTRODUCTION TO SAFETY POLICY

1.1 Safety Policy. Maintaining high standards of Health, Safety and Environment (HSE) is an integral part of campus life at Bahria University. All employees, students, and contractors shall remain vigilant, adhere to safe working practices, and comply with the controls prescribed in this Policy. Every individual has a legal and moral responsibility to report unsafe conditions and contribute towards continuous improvement.

1.2 Policy Statement. Bahria University is committed to providing a safe and secure environment for its students, staff, and visitors through effective safety systems, procedures, and practices. Achieving this objective requires active participation at all levels. All members of BUHO and Campuses/Units are responsible for compliance within their Areas of Responsibility (AOR), with particular accountability resting on senior leadership to ensure safe conduct of all activities.

1.3 Policy Framework. This Policy applies to all premises, operations, and activities under the University's control. It establishes the framework within which responsibilities are assigned and implemented. Campus Management, through respective Heads of Departments (HODs), shall ensure compliance and enforcement at all tiers.

1.4 Aim. To ensure the safety of all individuals at Bahria University while safeguarding University assets through a structured and effective HSE framework.

1.5 Preamble. Safety is a collective responsibility and can only be achieved through coordinated effort. This Policy defines roles and responsibilities for implementation while encouraging continuous feedback to further strengthen safety practices.

1.6 Applicability. The HSE Policy shall be applicable to the following:

a. Bahria University Head Office (BUHO)
b. All Campuses of Bahria University and Constituent Units (CUs)
c. Business Incubation Centers/ Offices of Research, Innovation & Commercialization (ORIC), Islamabad.
d. Institute of Professional Psychology (IPP), Karachi.
e. National Institutes of Maritime Affairs (NIMA), Islamabad and Karachi.

1.7 Conflict in Orders. The contents of this policy shall not supersede any orders or instructions issued from time to time by BUHO or the Campus Administration. Any conflict or discrepancy observed may be referred to the Safety Dte for clarification.

1

Figure 7: HSE Policy, third edition, PDF page 7: printed page 1: scope and applicability, paras 1.1 to 1.6.

1. HSE Policy continued

CHAPTER 6

ENVIRONMENT PROTECTION

6.1 **Importance.** Environment plays an important role in healthy living and the existence of human life. Planet Earth is a home for different living species. We all are dependent on the environment for food, air, water, and other needs. This chapter aims to formulate and implement policies that improve the environment at various BU Campuses/ CUs. An attempt has been made to raise the level of understanding about the environment putting in place a framework where everyone joins hands to produce a healthy environment not only at BU but in other places.

6.2 **BU Environment Policy (Climate Action and Carbon Management).** The Environment Policy sets the high-level objectives for the Environmental Management Plan which shall encompass following:

a. Develop and implement a **Climate Action Plan**.

b. Measure and report **GHG emissions (Scope 1, 2 and 3)**.

c. Establish **carbon reduction targets**, including long-term net-zero commitments.

d. Annual energy audits shall be conducted with defined efficiency benchmarks.

e. Renewable energy adoption be tracked through measurable KPIs.

f. Regular updating of data on webpage (e.g. **CORE-CF** webpage).

g. Develop effective material management (from raw to waste).

h. Increase awareness of environmental responsibility among staff, students and visitors.

i. Have an environmental management system that ensures the University complies with national environmental standards.

j. Ensure that every new building, extension and renovation of University premises, including work done through contractors, meets the energy-efficiency code at para 1.15(c). The Directorate of Planning and Development shall certify compliance before design approval and keep the record.

k. Maintain the premises in an environmentally sensitive way, having regard to the protection of natural habitats and local wildlife.

l. Promote and encourage sustainable forms of mass travel by staff and students to reduce carbon emission.

m. Constantly improve BU's environmental performance.

6.3 **Organization.** The Director of respective campus shall be responsible for the preparation, implementation and audit of the Environment Management Plan (EMP). HODs Earth & Environment Sciences (E&ES) shall render help to all campuses in the city in preparation of EMP as given below. However, the implementation remains responsibility of each campus. Similar help is to be provided to all BU setups coming up in future as well:

26

Figure 8: HSE Policy, third edition, PDF page 32: printed page 26: para 6.2, including annual energy audits and renewable energy KPIs; para 6.3, implementation and audit of campus Environmental Management Plans.

1. HSE Policy continued

to provide guidelines and simplify the process to quantification and proper disposal of wastewater wherever and whenever arising during the BU project's construction and operation phase.

6.10 Waste Water Minimization and Re-use. The under mentioned points are to be taken into consideration to reduce and re-use the waste water at campus. However, they are not exhaustive; new and innovative ideas may also be explored.

a. A thorough inspection of the campus to identify spots where better management can reduce the use of water.

b. Installation of metering system at key water consumption points to evaluate/ reduce water consumption. Readings from the meters to be taken on quarterly basis.

c. During construction, extensive management schemes are to be formulated for conservation of water.

d. Rain/ storm water harvesting mechanisms to be installed for collection and storage of rain water for further non-potable uses (laundry, washroom, maintenance of green areas etc).

e. Used water from wuzoo at Masjid/ prayer sites can be treated and used for maintaining greenery at the campus.

f. Installation of water sprinklers for gardening purposes.

g. Use of solar geysers instead of gas dependent geysers for water heating purposes during winters.

h. The sewage water be collected in septic tanks, treated and used for plantation (recycling and reuse). Wastewater treatment efficiency shall be monitored.

j. Display of small size posters /notices for water conservation at key point of usage.

6.11 Septic Tanks. Septic tanks decompose sewage through bacterial activity before draining water to main lines. All Campuses/ CUs are to plan to ensure sewage is treated through septic tanks before discharge to main lines. Hazardous effluent shall be treated, or collected for licensed disposal, before any discharge. The construction of septic tanks is to be made mandatory in all new/under construction buildings at BU.

6.12 Solid Waste Management Plan. Waste management is a critical component of management's operating policies. The purpose of this procedure is to provide guidelines for sustainable approach and to avoid any residuals which can negatively impact the campus environment. This includes waste of under construction building also. The components of waste management to be employed by respective BU units include:

a. Each campus shall track total waste (**Organic, Inorganic and Toxic**) generated, recycled and sent to landfill.

b. Landfill diversion targets shall be established.

c. BU shall strengthen **3R** (**Reduce, Reuse, Recycle**) programs with measurable KPIs.

29

Figure 9: HSE Policy, third edition, PDF page 35: printed page 29: para 6.10, including solar geysers for water heating (g).

1. HSE Policy continued

6.19 Plantation. There are a number of ways plants can reduce noise. One way is through sound absorption. Plant parts such as stems, leaves, branches, wood, etc. absorb sound. Rough bark and thick, fleshy leaves are particularly effective at absorbing sound due to their dynamic surface area. Indoor/ outdoor plantation be encouraged to achieve better noise levels. Plant factors that affect sound absorption:

a. Number of plants (the more the better)
b. Size of the plant(s)
c. Surface area of the leaves and of the plants themselves.

6.20 Pollution Control Technology Management. This aspect is applicable to the areas like construction sites and experimentation laboratories using noxious chemicals, dust and biological agents. For this, exhaust hoods, local exhaust ventilation system, scrubbers and other engineering controls may be employed.

6.20.1 Prevention of Marine Pollution. BU is committed to preventing and reducing marine pollution of all kinds, in particular pollution from land-based activities. Every Campus/CU, and in particular those in Karachi, shall:

a. prevent untreated sewage, wastewater and hazardous effluent from reaching drains, nullahs, rivers or the sea (paras 6.9 to 6.11);
b. control storm-water runoff from campuses and construction sites so that sediment, oil, chemicals and litter do not enter water bodies;
c. stop plastic and other solid waste from entering drains and water bodies (paras 6.12 to 6.17);
d. store fuel, oil and chemicals with secondary containment and keep spill kits; and
e. require contractors and suppliers on University premises to comply with this para.

The Earth and Environment Sciences departments shall monitor implementation, and the Director Campus shall report any spill or discharge to the Standing HSE Committee within three days.

6.21 Reducing Environmental Foot Prints. This significantly important aspect needs to be covered through following options:

a. BU shall define sustainable commuting targets. Monitoring systems shall track:

(1) Vehicle usage.
(2) Carbon emissions from transport.
(3) University-owned vehicle movement (via digital applications).

b. **Mass Transit/ Optimize Shuttle Service**. All campuses/ CUs are to promote means of mass transit and discourage use of private vehicles. BU shall also promote use of e-vehicles.

c. **Renewable Energy**. All campuses are to work out the option of utilizing solar energy not only to cut the cost but to minimize carbon emissions. The campuses be gradually shifted to the solar energy.

d. **Annual Environmental Audits**. Calculation of environmental footprints, cost benefit analysis be conducted by E&ES department and EMP be revised accordingly. Annual environmental audits of units be conducted annually.

32

Figure 10: HSE Policy, third edition, PDF page 38: printed page 32: para 6.21(c–d), gradual solar transition and annual environmental audits.

1. HSE Policy energy audits and renewable energy

6.2 **BU Environment Policy (Climate Action and Carbon Management).** The Environment Policy sets the high-level objectives for the Environmental Management Plan which shall encompass following:

a. Develop and implement a **Climate Action Plan**.

b. Measure and report **GHG emissions (Scope 1, 2 and 3)**.

c. Establish **carbon reduction targets**, including long-term net-zero commitments.

d. Annual energy audits shall be conducted with defined efficiency benchmarks.

e. Renewable energy adoption be tracked through measurable KPIs.

f. Regular updating of data on webpage (e.g. **CORE-CF** webpage).

g. Develop effective material management (from raw to waste).

h. Increase awareness of environmental responsibility among staff, students and visitors.

i. Have an environmental management system that ensures the University complies with national environmental standards.

j. Ensure that every new building, extension and renovation of University premises, including work done through contractors, meets the energy-efficiency code at para 1.15(c). The Directorate of Planning and Development shall certify compliance before design approval and keep the record.

k. Maintain the premises in an environmentally sensitive way, having regard to the protection of natural habitats and local wildlife.

l. Promote and encourage sustainable forms of mass travel by staff and students to reduce carbon emission.

m. Constantly improve BU's environmental performance.

Figure 11: Enlarged extract, HSE Policy, PDF page 32, printed page 26: para 6.2, annual energy audits (d) and renewable energy KPIs (e).

c. **Renewable Energy**. All campuses are to work out the option of utilizing solar energy not only to cut the cost but to minimize carbon emissions. The campuses be gradually shifted to the solar energy.

d. **Annual Environmental Audits**. Calculation of environmental footprints, cost benefit analysis be conducted by E&ES department and EMP be revised accordingly. Annual environmental audits of units be conducted annually.

Figure 12: Enlarged extract, HSE Policy, PDF page 38, printed page 32: para 6.21(c–d), solar transition and annual environmental audits.

g. Use of solar geysers instead of gas dependent geysers for water heating purposes during winters.

Figure 13: Enlarged extract, HSE Policy, PDF page 35, printed page 29: para 6.10(g), solar geysers in place of gas-dependent geysers.

2. Strategic Management Plan: building energy targets, 2020-21 to 2029-30

The University's Strategic Management Plan sets objectives and key performance indicators (KPIs) for each theme, with a target for each fiscal year from 2020-21 to 2029-30, and records the progress reported by each campus against them. Under Theme 5, Conducive Infrastructure, Objective 5.9 is to adopt advanced and secure construction and maintenance practices in line with the standards of the relevant local regulatory bodies, while maintaining efficient consumption of energy and protecting the environment. Two of its KPIs set the plan for upgrading the existing buildings (Table 2):

KPI 5.9.3 requires a review every year at each campus to identify the buildings and blocks with higher energy consumption rates, with a target of 1 (review conducted) in every year from 2020-21 to 2029-30.

KPI 5.9.4 sets the percentage reduction in the electricity requirement of each building or block to be achieved through renewable energy sources, such as solar panels, and energy-efficient systems, such as sensor lights, within a range of 5 to 20 per cent. The target rises from 5 per cent in 2020-21 to 10 per cent in 2023-24 and 2024-25, 12.5 per cent in 2025-26 and 2026-27, and 20 per cent in 2029-30.

Under the same objective, KPI 5.9.2 tracks the implementation of the policy that all renovations and new builds follow energy efficiency and sustainable standards.

Table 2: Strategic Management Plan, Objective 5.9: annual targets of KPIs 5.9.3 and 5.9.4

Fiscal year	KPI 5.9.3: review to identify buildings and blocks with higher energy consumption (Yes = 1)	KPI 5.9.4: reduction in electricity requirement of each building or block (per cent)
2020-21	1	5.00
2021-22	1	7.50
2022-23	1	7.50
2023-24	1	10.00
2024-25	1	10.00
2025-26	1	12.50
2026-27	1	12.50
2027-28	1	15.00
2028-29	1	18.00
2029-30	1	20.00

2. Strategic Management Plan (continued): progress reported by the campuses

The campuses report their progress against these targets each year (Table 3). For 2024-25 the review of buildings with higher energy consumption was conducted at four of the six campuses and constituent units, and the Lahore campus reported a 10 per cent reduction in its electricity requirement, meeting its target. For 2025-26 the review was conducted at three units, and the Health Sciences campus, Islamabad, reported a 50 per cent reduction against a target of 12.5 per cent, raising the University-level value from 1.43 to 7.14 per cent. The University-level value of KPI 5.9.3 has been reported in every year since 2021-22 (0.20, 0.60, 0.40, 0.67 and 0.50).

Table 3: Strategic Management Plan: progress reported against KPIs 5.9.3 and 5.9.4

KPI	Fiscal year	Target	University level	Campuses reporting the target met
KPI 5.9.3, review of buildings with higher energy consumption	2024-25	1	0.67	Karachi (BUKC), Lahore (BULC), Institute of Professional Psychology (IPP), Health Sciences Karachi (BUHS-KHI)
KPI 5.9.3, review of buildings with higher energy consumption	2025-26	1	0.50	Institute of Professional Psychology (IPP), Health Sciences Karachi (BUHS-KHI), Health Sciences Islamabad (BUHS-ISB)
KPI 5.9.4, reduction in electricity requirement (per cent)	2024-25	10.00	1.43	Lahore (BULC): 10.00
KPI 5.9.4, reduction in electricity requirement (per cent)	2025-26	12.50	7.14	Health Sciences Islamabad (BUHS-ISB): 50.00

In the Strategic Management Plan, BUIC is the Islamabad Campus, BUKC the Karachi Campus, BULC the Lahore Campus, IPP the Institute of Professional Psychology, and BUHS-KHI and BUHS-ISB the Health Sciences campuses at Karachi and Islamabad. The fiscal year runs from July to June. Figures 14 to 19 reproduce the Strategic Management Plan records, captured on 4 November 2026.

2. Strategic Management Plan (continued): fiscal year 2024-25

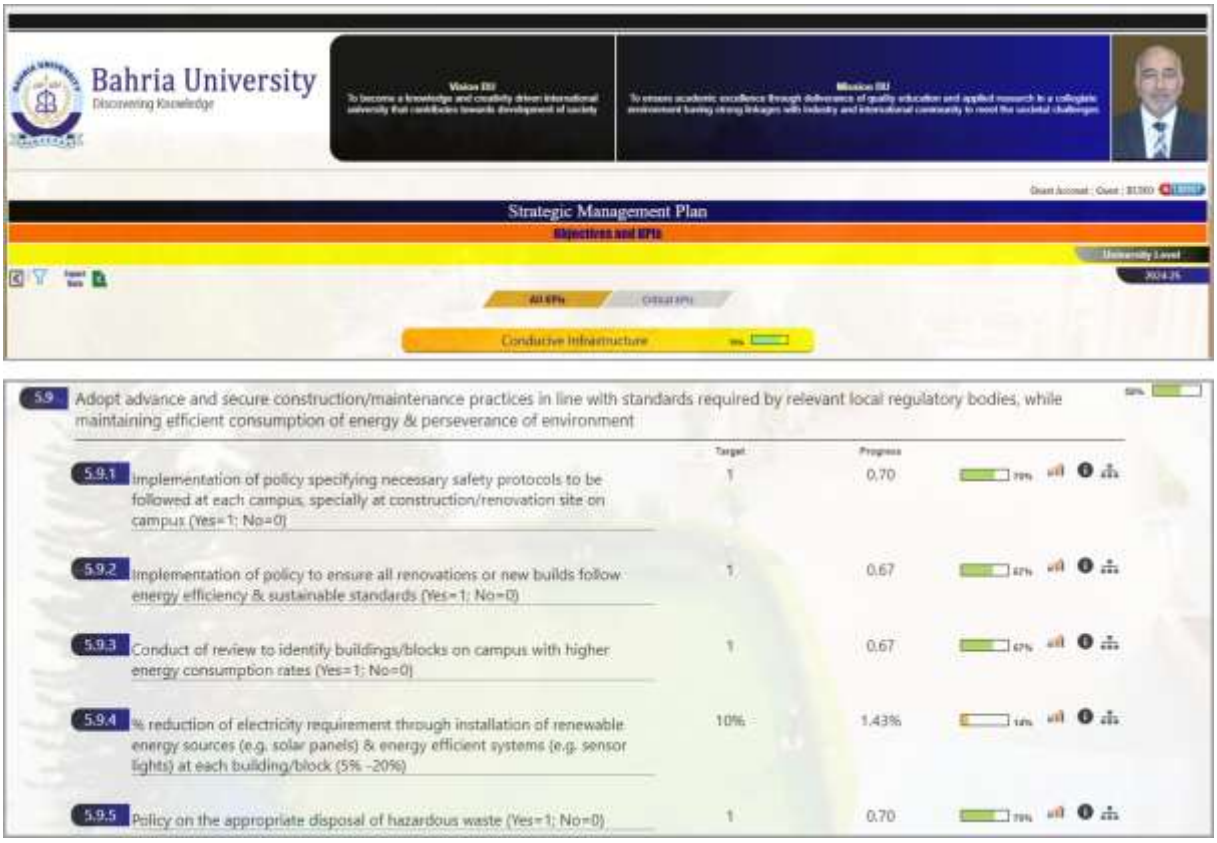


Figure 14: Strategic Management Plan, Objectives and KPIs, University Level, fiscal year 2024-25: Theme 5, Conducive Infrastructure (top); Objective 5.9 with KPIs 5.9.1 to 5.9.5, their targets and progress (bottom).

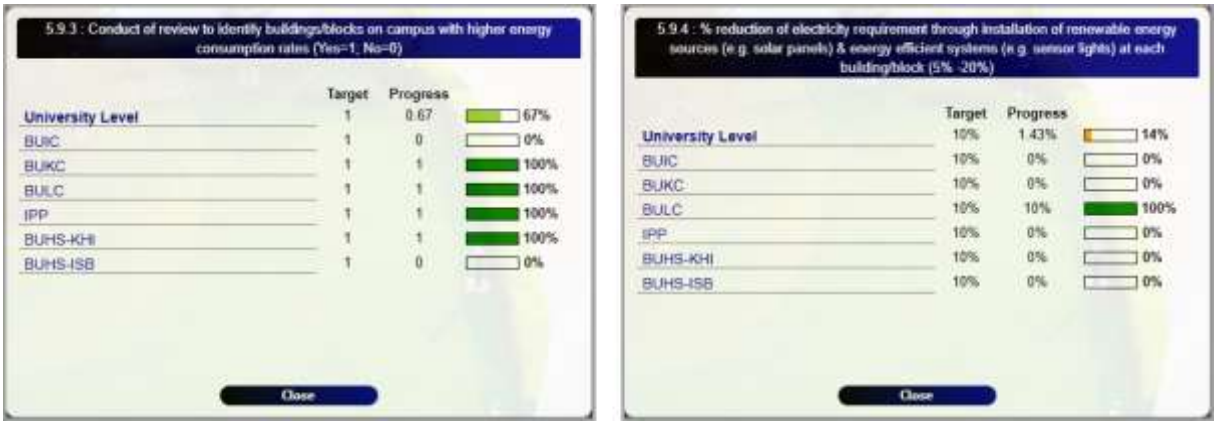


Figure 15: Strategic Management Plan, fiscal year 2024-25, progress by campus: KPI 5.9.3 (left), review conducted at BUKC, BULC, IPP and BUHS-KHI; KPI 5.9.4 (right), 10 per cent reduction at BULC.

2. Strategic Management Plan (continued): fiscal year 2025-26

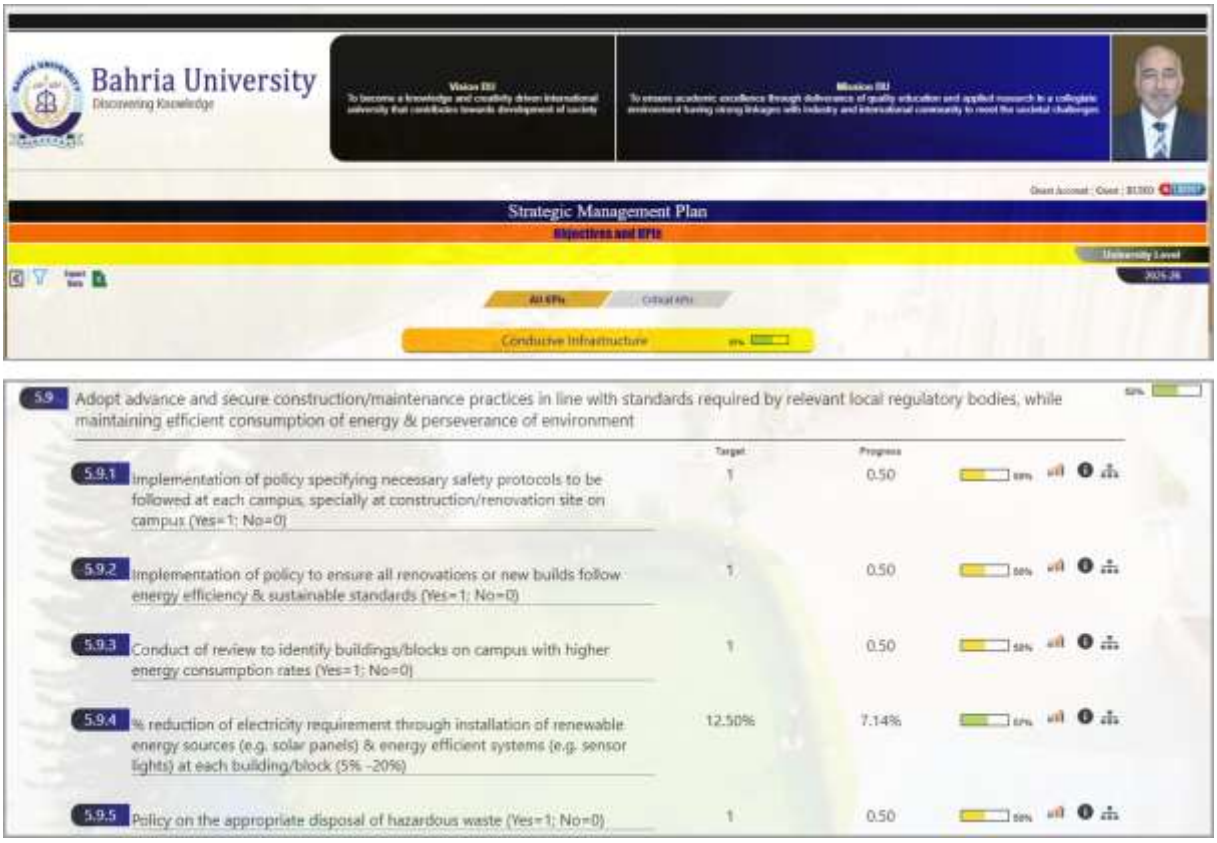


Figure 16: Strategic Management Plan, Objectives and KPIs, University Level, fiscal year 2025-26: Theme 5, Conducive Infrastructure (top); Objective 5.9 with KPIs 5.9.1 to 5.9.5, their targets and progress (bottom).

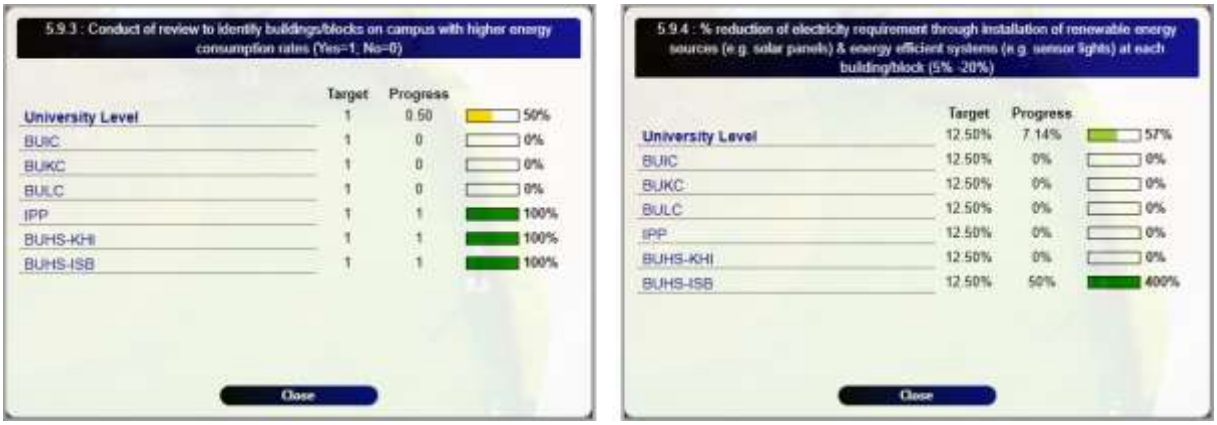


Figure 17: Strategic Management Plan, fiscal year 2025-26, progress by campus: KPI 5.9.3 (left), review conducted at IPP, BUHS-KHI and BUHS-ISB; KPI 5.9.4 (right), 50 per cent reduction at BUHS-ISB.

2. Strategic Management Plan (continued): ten-year targets

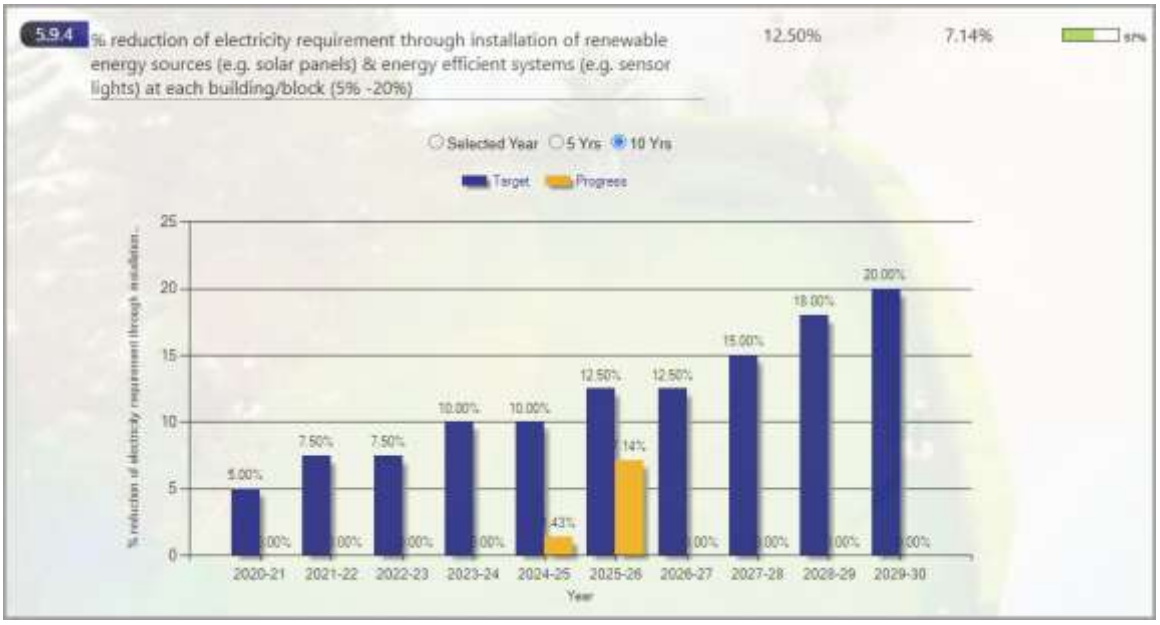


Figure 18: Strategic Management Plan, KPI 5.9.4, ten-year view: targets for the reduction in electricity requirement of each building or block, from 5.00 per cent (2020-21) to 20.00 per cent (2029-30), and the progress reported for 2024-25 (1.43 per cent) and 2025-26 (7.14 per cent).

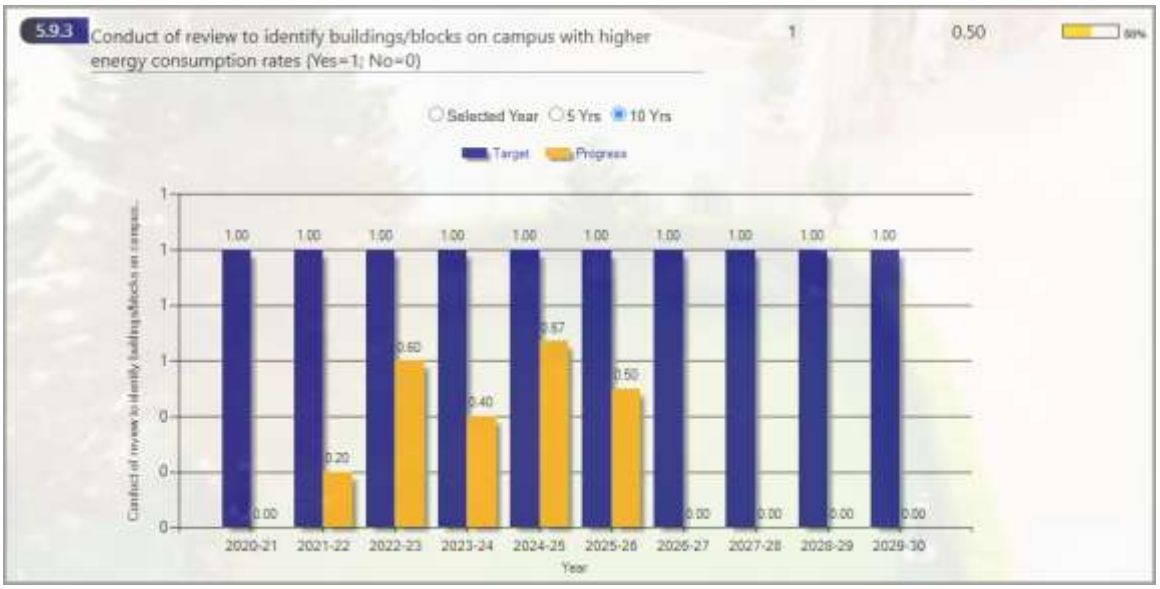


Figure 19: Strategic Management Plan, KPI 5.9.3, ten-year view: a review of buildings and blocks with higher energy consumption targeted in every year from 2020-21 to 2029-30, and the University-level progress reported from 2021-22 (0.20) to 2025-26 (0.50).

3. Energy audit directive of the Rector, November 2025

On 24 November 2025 the Rector directed the Director Admin to deploy AI-based tools to conduct comprehensive energy audits across all campuses and facilities; to collect and analyse real-time data on electricity, heating, cooling and equipment use; to identify inefficiencies and generate recommendations for energy conservation and cost reduction; to implement the recommended measures through the facility management teams and monitor performance; to conduct periodic follow-up audits to assess improvements and refine the energy-saving strategies; and to train the staff concerned (Rector's Briefing: Action Points, item 7). The directive establishes a University-wide programme for identifying and upgrading inefficient buildings and services.

Bahria University, Islamabad

Rector's Briefing: Action Points

24th November, 2025

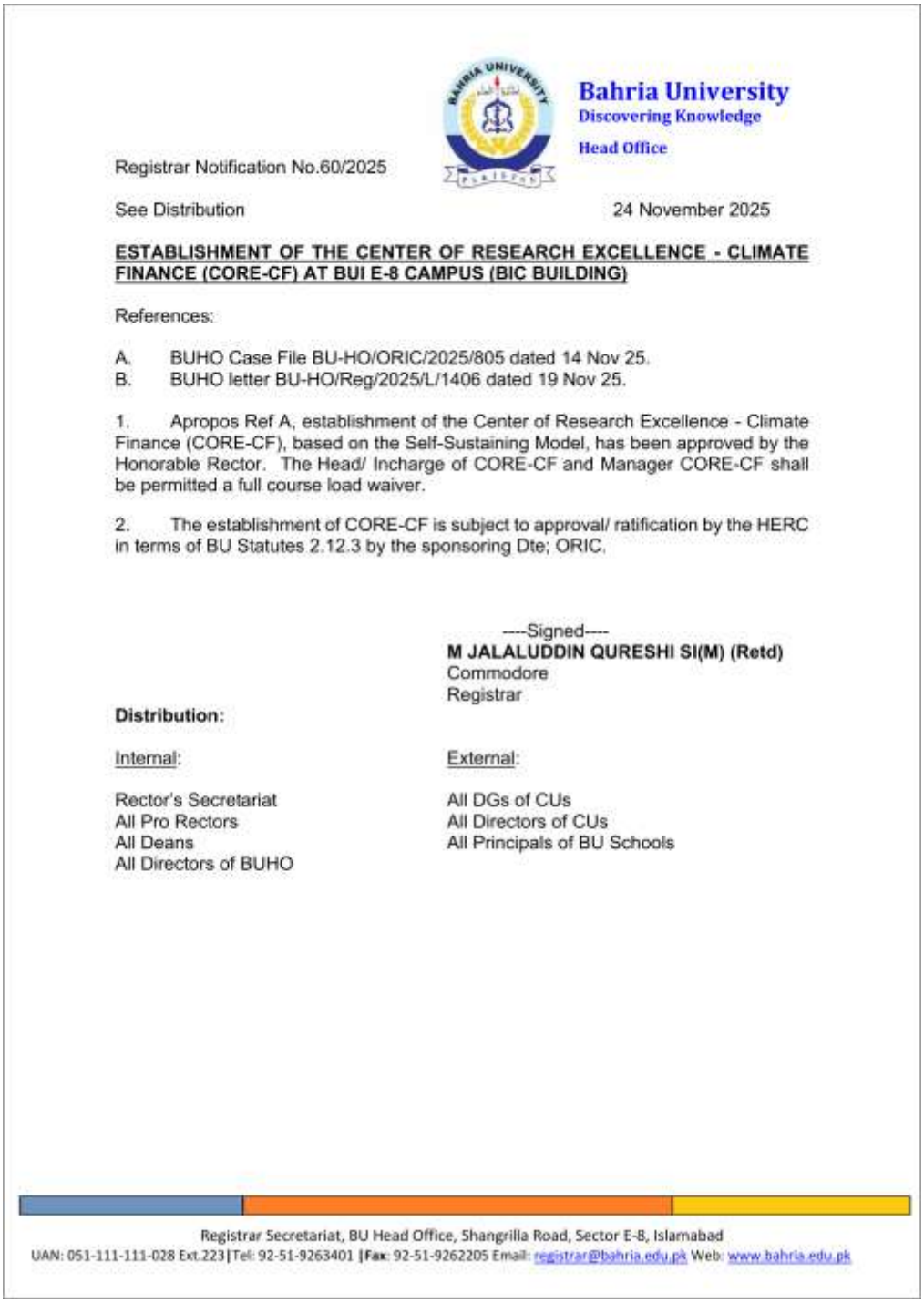
Academic Wing

Sr.N	Action Points by the Honorable Rector	Action by
7	a. Deploy AI-based tools and software to conduct comprehensive energy audits across all campuses and facilities. b. Collect and analyze real-time data on electricity, heating, cooling, and equipment usage using AI-driven systems. c. Identify inefficiencies and generate AI-powered recommendations for energy conservation and cost reduction. d. Implement the recommended measures through facility management teams and monitor performance. e. Conduct periodic follow-up audits to assess improvements and refine energy-saving strategies. f. Train relevant staff on the use and interpretation of AI-based energy audit tools.	Director Admin

Figure 20: Rector's Briefing: Action Points, Academic Wing, 24 November 2025 (extract): item 7, AI-based energy audits across all campuses and facilities, implementation of the recommended energy conservation measures and follow-up audits; action by the Director Admin.

On the same date Registrar Notification No. 60/2025 notified the establishment, approved by the Rector, of the Center of Research Excellence in Climate Finance (CORE-CF), which the Sustainability and Climate Action Policy designates to implement the policy and coordinate compliance monitoring (para 4.2).

3. Energy audit directive of the Rector, November 2025 (continued)



Bahria University
Discovering Knowledge
Head Office

Registrar Notification No.60/2025

See Distribution

24 November 2025

ESTABLISHMENT OF THE CENTER OF RESEARCH EXCELLENCE - CLIMATE FINANCE (CORE-CF) AT BUI E-8 CAMPUS (BIC BUILDING)

References:

A. BUHO Case File BU-HO/ORIC/2025/805 dated 14 Nov 25.
B. BUHO letter BU-HO/Reg/2025/L/1406 dated 19 Nov 25.

1. Apropos Ref A, establishment of the Center of Research Excellence - Climate Finance (CORE-CF), based on the Self-Sustaining Model, has been approved by the Honorable Rector. The Head/ Incharge of CORE-CF and Manager CORE-CF shall be permitted a full course load waiver.

2. The establishment of CORE-CF is subject to approval/ ratification by the HERC in terms of BU Statutes 2.12.3 by the sponsoring Dte; ORIC.

----Signed----
M JALALUDDIN QURESHI SI(M) (Retd)
Commodore
Registrar

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Figure 21: Registrar Notification No. 60/2025 of 24 November 2025: establishment of the Center of Research Excellence - Climate Finance (CORE-CF) at the Islamabad E-8 campus (BIC Building), approved by the Rector.

4. Sustainability and Climate Action Policy: building upgrade programme

The Bahria University Sustainability and Climate Action Policy (Policy Code BU-SCAP-2025, version 1.0), effective 7 December 2025 and approved by the Rector, applies to all campuses, units, students, staff, contractors and visitors and to all activities and operations (para 3.2). Under Objective 2, Climate Resilient Infrastructure, existing buildings are to be retrofitted to achieve a 40 per cent improvement in energy efficiency by 2030 (para 3.1).

Pillar 1, Energy Transformation and Decarbonization, sets the upgrade measures. Rooftop solar PV systems are to supply at least 30 per cent of campus electricity demand by 2027, with battery storage and microgrids with smart energy management (para 5.1.1). Building management systems are to be implemented across all facilities, all lighting retrofitted to LED with smart controls (occupancy sensors and daylight harvesting), air conditioning upgraded to high-efficiency standards with at least 25 per cent improvement, and a deep energy retrofit programme implemented for buildings older than ten years (para 5.1.2). Diesel generators are to be phased out and water heating moved to electric or solar thermal systems (para 5.1.3). The policy separately gives a phased implementation timeline, which runs from energy audits and solar feasibility studies in 2025-2026, through Phase 1 solar installation (15 per cent of demand) in 2026-2028 and Phase 2 solar with storage (30 per cent) in 2028-2030, to the completion of the renewable transition and efficiency retrofits in 2030-2035. Progress is measured against a 30 per cent reduction in energy use intensity (kWh per square metre) by 2030 and 50 per cent by 2040 (para 8.2).

4. Sustainability and Climate Action Policy (continued)

BAHRIA UNIVERSITY SUSTAINABILITY AND CLIMATE ACTION POLICY

Policy Code: BU-SCAP-2025

Version: 1.0

Effective Date: 07/12/2025

Review Cycle: Biennial

Approved By: Rector, Bahria University

Figure 22: Sustainability and Climate Action Policy, PDF page 1: BU-SCAP-2025, version 1.0, effective 7 December 2025, approved by the Rector.

4. Sustainability and Climate Action Policy (continued)

Table of Contents

1. PREAMBLE AND POLICY STATEMENT 5
1.1 Context and Rationale 5
1.2 Policy Statement 5
1.3 Legal and Policy Framework 6
2. DEFINITIONS AND TERMINOLOGY 6
3. POLICY OBJECTIVES AND SCOPE 7
3.1 Strategic Objectives 7
3.2 Scope 8
3.3 Responsible Investment and Divestment 9
4. GOVERNANCE STRUCTURE 9
4.1 University Sustainability Council (USC) 9
4.2 Center of Research Excellence Climate Finance (CORE – CF) 11
4.3 Campus Sustainability Manager 11
4.4 Integration with CORE-CF 1
5. STRATEGIC PILLARS AND IMPLEMENTATION FRAMEWORK 1
PILLAR 1: ENERGY TRANSFORMATION AND DECARBONIZATION 1
5.1.1 Renewable Energy Transition 2
5.1.2 Energy Efficiency and Conservation 2
5.1.3 Thermal Energy Decarbonization 2
PILLAR 2: SUSTAINABLE MOBILITY AND TRANSPORTATION 3
5.2.1 Active Transportation Infrastructure 3
5.2.2 Public Transportation Integration 3
5.2.3 Fleet Electrification 4
5.2.4 Travel Demand Management 4
PILLAR 3: WATER STEWARDSHIP AND RESILIENCE 4

2

Figure 23: Sustainability and Climate Action Policy, Table of Contents (page 2), sections 1 to 5, including paras 5.1.1 to 5.1.3.

4. Sustainability and Climate Action Policy (continued)

5.3.1 Water Efficiency 4
5.3.2 Alternative Water Sources 5
5.3.3 Water Quality Protection 5
PILLAR 4: WASTE ELIMINATION AND CIRCULAR ECONOMY 5
5.4.1 Waste Reduction 5
5.4.2 Waste Segregation and Collection 6
5.4.3 Recycling and Composting 6
5.4.4 Circular Economy Integration 6
5.4.5 Single-Use Plastic and Disposable Items 6
PILLAR 5: BIODIVERSITY AND ECOSYSTEM SERVICES 7
5.5.1 Habitat Conservation and Restoration 8
5.5.2 Sustainable Landscaping 8
5.5.3 Ecosystem Services Enhancement 8
PILLAR 6: CLIMATE RESILIENCE AND ADAPTATION 8
5.6.1 Climate Risk Assessment 9
5.6.2 Infrastructure Resilience 9
5.6.3 Operational Continuity 9
5.6.4 Community Resilience 9
6. INTEGRATION WITH ACADEMIC MISSION 10
6.1 Curriculum Integration 10
6.2 Research Excellence 11
6.3 Campus as Living Laboratory 11
7. STAKEHOLDER ENGAGEMENT AND PARTNERSHIPS 1
7.1 Internal Stakeholders 1
7.2 External Partnerships 1
8. MONITORING, REPORTING, AND VERIFICATION 3
8.1 Greenhouse Gas Inventory 3
8.2 Performance Metrics and Key Performance Indicators (KPIs) 3
8.3 Reporting and Disclosure 4

Figure 24: Sustainability and Climate Action Policy, Table of Contents (page 3), sections 5 to 9.

4. Sustainability and Climate Action Policy (continued)

8.4 Verification and Assurance 5
9. COMPLIANCE AND ACCOUNTABILITY 5
9.1 Roles and Responsibilities 5
9.2 Incentives and Recognition 6
9.3 Non-Compliance 7
10. POLICY REVIEW AND AMENDMENT 7

4

Figure 25: Sustainability and Climate Action Policy, Table of Contents (page 4), section 10.

4. Sustainability and Climate Action Policy (continued): pages cited

9	Scope 1 Emissions	Direct greenhouse gas emissions from owned or controlled sources (e.g., campus vehicles, generators)
10	Scope 2 Emissions	Indirect emissions from purchased electricity, heat, or steam
11	Scope 3 Emissions	All other indirect emissions occurring in the value chain (e.g., commuting, business travel, purchased goods)
12	Science-Based Targets	Emission reduction targets aligned with climate science to limit global warming to 1.5°C

3. POLICY OBJECTIVES AND SCOPE

3.1 Strategic Objectives

Objective 1: Carbon Neutrality and Emissions Reduction

- Achieve 50% reduction in Scope 1 and 2 emissions by 2040 (baseline: FY2024)
- Achieve carbon neutrality (Net Zero) across all campuses by 2040
- Transition to 100% renewable electricity by 2035
- Phase out fossil fuel-based transportation fleet by 2032

Objective 2: Climate Resilient Infrastructure

- Climate-proof all new infrastructure developments against 2050 climate projections
- Retrofit existing buildings to achieve 40% energy efficiency improvement by 2030
- Implement nature-based solutions for stormwater management and urban heat island mitigation
- Establish climate-resilient water management systems ensuring zero water waste

Objective 3: Sustainability Integration in Academia

- Embed climate and sustainability content across 100% of academic programs by 2028

7

Figure 26: Sustainability and Climate Action Policy, PDF page 7, printed page 7: para 3.1, Strategic Objectives, including Objective 2, Climate Resilient Infrastructure.

4. Sustainability and Climate Action Policy (continued): pages cited

- All campuses: Islamabad (main), Karachi, Lahore, and future expansions
- All academic and administrative units, faculties, departments, and centers
- All students, faculty, staff, contractors, and visitors
- All activities, operations, procurement, investments, and partnerships
- Affiliated colleges and institutions under BU jurisdiction

3.3 Responsible Investment and Divestment

The University shall not invest in carbon-intensive energy industries, notably coal and oil, and shall divest from any such holdings.

a. From the date of approval of this Policy, no new investment shall be made in any company or fund that draws more than 10% of its revenue from coal or oil.

b. Existing coal and oil holdings shall be sold in full by 30 June 2028.

c. This para applies to the endowment and every other investment held by the University or any campus, whether held directly or through mutual funds or other pooled funds.

d. Each year the Treasurer shall sign and date a statement of the University's investment holdings, showing any coal or oil exposure, the financed emissions of the holdings and progress on divestment, and submit it to the University Sustainability Council. CORE-CF shall publish a summary on the University website.

4. GOVERNANCE STRUCTURE

4.1 University Sustainability Council (USC)

Composition:

- Rector (Chairperson)
- Pro-Rector (Academics)
- Pro-Rector (Research)
- Pro-Rector (Administration)

9

Figure 27: Sustainability and Climate Action Policy, PDF page 9: scope continued (para 3.2) and University Sustainability Council (para 4.1).

4. Sustainability and Climate Action Policy (continued): pages cited

Functions:

- Approve sustainability strategies, targets, and action plans
- Oversee climate risk assessment and management
- Review annual sustainability performance and reports
- Ensure alignment with national and international climate commitments
- Approve major sustainability investments and partnerships
- Report to Rector on climate performance

4.2 Center of Research Excellence Climate Finance (CORE – CF)

Structure:

- Manager CORE CF
- Sustainability Managers (one per campus)
- Data and Reporting Analyst
- Engagement and Communications Coordinator

Responsibilities:

- Day-to-day implementation of this policy
- Coordination of GHG inventory and carbon accounting
- Management of sustainability projects and initiatives
- Stakeholder engagement and communications
- Preparation of annual sustainability reports
- Compliance monitoring and verification coordination

4.3 Campus Sustainability Manager

10

Figure 28: Sustainability and Climate Action Policy, PDF page 11, printed page 10: para 4.2, Center of Research Excellence Climate Finance (CORE-CF), including day-to-day implementation of the policy.

4. Sustainability and Climate Action Policy (continued): pages cited

Target: Carbon neutral energy systems by 2035

Key Initiatives:

5.1.1 Renewable Energy Transition

- Install rooftop solar PV systems achieving minimum 30% of campus electricity demand by 2027
- Procure remaining electricity from certified renewable sources through green tariffs or Power Purchase Agreements (PPAs)
- Explore on-campus wind energy potential at suitable locations
- Implement battery energy storage systems for resilience and peak shaving
- Establish microgrids with smart energy management systems

5.1.2 Energy Efficiency and Conservation

- Implement comprehensive Building Management Systems (BMS) across all facilities
- Retrofit all lighting to LED with smart controls (occupancy sensors, daylight harvesting)
- Upgrade HVAC systems to high-efficiency standards (minimum 25% improvement)
- Implement deep energy retrofit program for buildings older than 10 years
- Establish strict energy performance standards for all new construction (minimum 40% better than code)

5.1.3 Thermal Energy Decarbonization

- Phase out diesel generators through renewable energy + storage solutions
- Transition to electric or solar thermal systems for water heating
- Explore geothermal and waste heat recovery opportunities
- Implement district heating/cooling systems where feasible

12

Figure 29: Sustainability and Climate Action Policy, PDF page 13, printed page 12: paras 5.1.1, Renewable Energy Transition, 5.1.2, Energy Efficiency and Conservation, and 5.1.3, Thermal Energy Decarbonization.

4. Sustainability and Climate Action Policy (continued): pages cited

Implementation Timeline:

- 2025-2026: Energy audits and solar feasibility studies
- 2026-2028: Phase 1 solar installation (15% demand)
- 2028-2030: Phase 2 solar + storage (30% demand)
- 2030-2035: Complete renewable transition and efficiency retrofits

PILLAR 2: SUSTAINABLE MOBILITY AND TRANSPORTATION

Target: 60% reduction in transport emissions by 2030; 100% electric fleet by 2032

Key Initiatives:

5.2.1 Active Transportation Infrastructure

- Construct protected cycling lanes connecting all campus zones
- Establish secure, weather-protected bicycle parking with repair stations
- Implement shower and locker facilities for cyclists
- Create pedestrian-priority zones with enhanced landscaping and shading
- Partner with bike-sharing services for inter-campus connectivity

5.2.2 Public Transportation Integration

- Establish dedicated shuttle services from major residential areas
- Partner with public transit authorities for enhanced service to campuses
- Implement real-time transit information systems
- Subsidize public transit passes for students and staff

13

Figure 30: Sustainability and Climate Action Policy, PDF page 14, printed page 13: Pillar 1 implementation timeline.

4. Sustainability and Climate Action Policy (continued): pages cited

8. MONITORING, REPORTING, AND VERIFICATION

8.1 Greenhouse Gas Inventory

Inventory Standards:

- Conduct annual GHG inventory following GHG Protocol Corporate Standard and ISO 14064-1
- Include all Scope 1, Scope 2, and relevant Scope 3 emissions
- Establish 2024 as baseline year for all emission calculations
- Engage third-party verification for inventory accuracy (ISO 14064-3)

Reporting Categories:

- Stationary combustion (generators, boilers)
- Mobile combustion (fleet vehicles)
- Fugitive emissions (refrigerants, fire suppression)
- Purchased electricity and steam
- Business travel (air, rail, road)
- Employee commuting
- Purchased goods and services
- Capital goods and construction
- Waste generated in operations

8.2 Performance Metrics and Key Performance Indicators (KPIs)

Category	KPI	Target 2030	Target 2040
Energy	Renewable energy share	60%	100%

23

Figure 31: Sustainability and Climate Action Policy, PDF page 25, printed page 23: para 8.2, Performance Metrics and Key Performance Indicators.

4. Sustainability and Climate Action Policy (continued): pages cited

	Energy use intensity (kWh/sqm)	-30%	-50%
Emissions	Scope 1+2 emissions reduction	-50%	Net Zero
	Scope 3 emissions reduction	-30%	Net Zero
Water	Water use intensity (L/sqm)	-40%	-60%
	Alternative water sources	30%	50%
Waste	Waste diversion rate	90%	100%
	Single-use plastic elimination	100%	100%
Transport	EV fleet share	50%	100%
	Single-occupancy vehicle trips	-60%	-80%
Biodiversity	Native species in landscaping	80%	95%
	Green cover ratio	35%	50%
Academics	Programs with climate content	100%	100%
	Climate research funding (PKR M)	50	200

8.3 Reporting and Disclosure

Annual Sustainability Report:

- Publish comprehensive sustainability report using GRI Standards
- Include GHG inventory with third-party verification statement
- Report progress against Science-Based Targets
- Disclose climate risks and adaptation measures (TCFD alignment)
- Share best practices and lessons learned

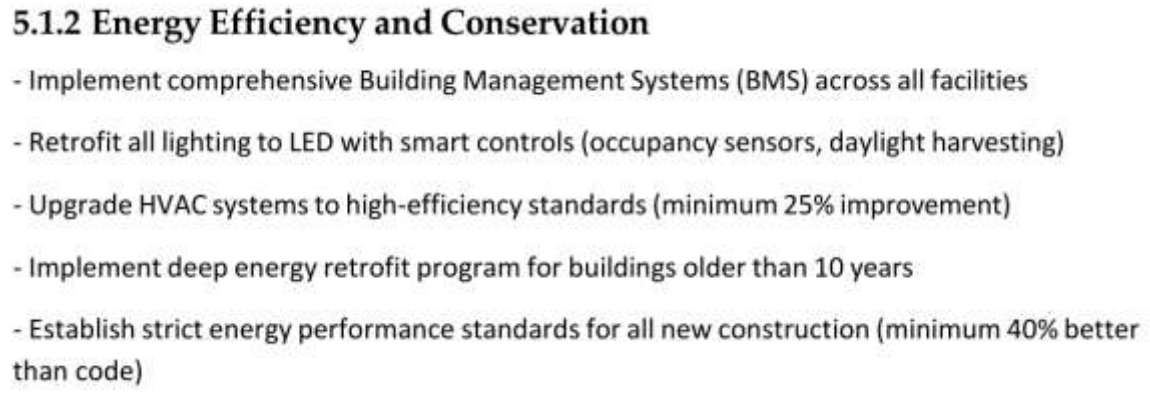
External Reporting:

- Submit data to CDP (Carbon Disclosure Project)

24

Figure 32: Sustainability and Climate Action Policy, PDF page 26, printed page 24: para 8.2 (continued), energy use intensity targets.

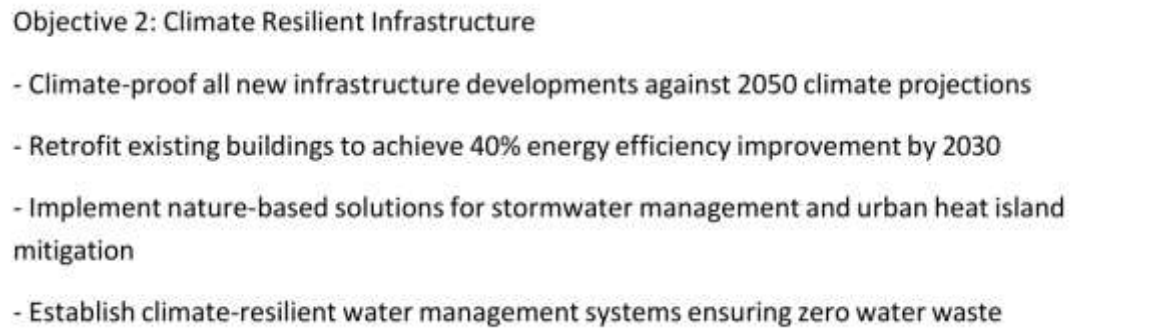
4. Sustainability and Climate Action Policy (continued): paragraphs cited



5.1.2 Energy Efficiency and Conservation

- Implement comprehensive Building Management Systems (BMS) across all facilities
- Retrofit all lighting to LED with smart controls (occupancy sensors, daylight harvesting)
- Upgrade HVAC systems to high-efficiency standards (minimum 25% improvement)
- Implement deep energy retrofit program for buildings older than 10 years
- Establish strict energy performance standards for all new construction (minimum 40% better than code)

Figure 33: Enlarged extract, Sustainability and Climate Action Policy, PDF page 13, printed page 12: para 5.1.2, Energy Efficiency and Conservation; building management systems, LED retrofit with smart controls, air conditioning at least 25 per cent more efficient and a deep energy retrofit programme for buildings older than ten years.



Objective 2: Climate Resilient Infrastructure

- Climate-proof all new infrastructure developments against 2050 climate projections
- Retrofit existing buildings to achieve 40% energy efficiency improvement by 2030
- Implement nature-based solutions for stormwater management and urban heat island mitigation
- Establish climate-resilient water management systems ensuring zero water waste

Figure 34: Enlarged extract, Sustainability and Climate Action Policy, PDF page 7, printed page 7: para 3.1, Objective 2; retrofit of existing buildings to achieve a 40 per cent energy efficiency improvement by 2030.

4. Sustainability and Climate Action Policy (continued): paragraphs cited

5.1.1 Renewable Energy Transition

- Install rooftop solar PV systems achieving minimum 30% of campus electricity demand by 2027

- Procure remaining electricity from certified renewable sources through green tariffs or Power Purchase Agreements (PPAs)

- Explore on-campus wind energy potential at suitable locations

- Implement battery energy storage systems for resilience and peak shaving

- Establish microgrids with smart energy management systems

Figure 35: Enlarged extract, Sustainability and Climate Action Policy, PDF page 13, printed page 12: para 5.1.1, rooftop solar for at least 30 per cent of campus electricity demand by 2027, battery storage and smart microgrids.

Implementation Timeline:

- 2025-2026: Energy audits and solar feasibility studies

- 2026-2028: Phase 1 solar installation (15% demand)

- 2028-2030: Phase 2 solar + storage (30% demand)

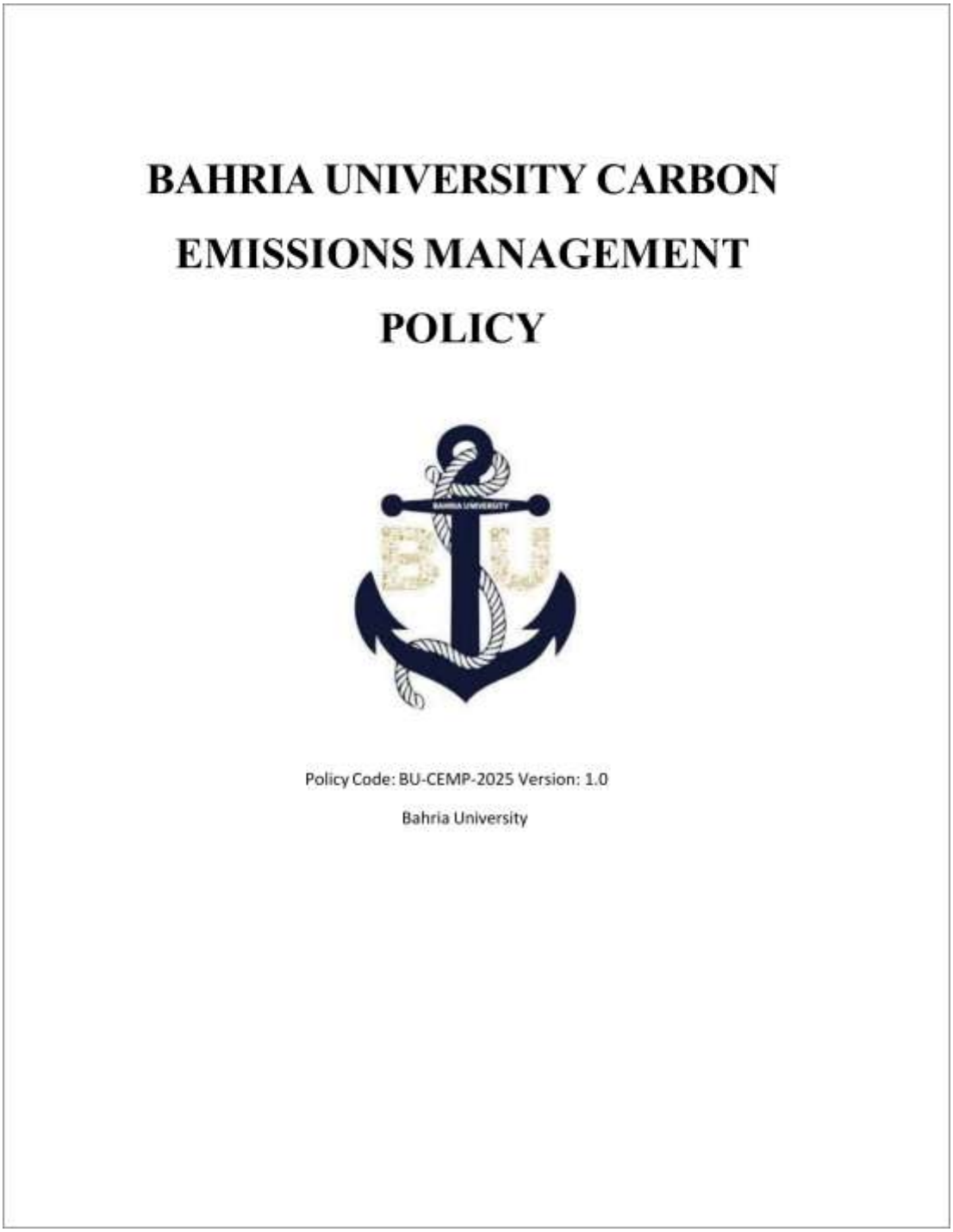
- 2030-2035: Complete renewable transition and efficiency retrofits

Figure 36: Enlarged extract, Sustainability and Climate Action Policy, PDF page 14, printed page 13: Pillar 1 implementation timeline; energy audits and solar feasibility studies (2025-2026), Phase 1 and Phase 2 solar (2026-2030) and completion of the renewable transition and efficiency retrofits (2030-2035).

5. Carbon Emissions Management Policy: energy and buildings roadmap

The Bahria University Carbon Emissions Management Policy (Policy Code BU-CEMP-2025, version 1.0), published on the University website, places energy efficiency first in its decarbonization hierarchy (para 6.1). Its sectoral roadmap for energy and buildings provides for deep energy retrofits achieving a 40 per cent efficiency improvement, on-site solar generation meeting 30 per cent of demand by 2028, smart building management systems, 100 per cent renewable electricity procurement by 2030 and the phase-out of diesel generators by 2030 (para 6.2). The interim targets set a 25 per cent reduction in Scope 1 and 2 emissions against the 2024 baseline by FY2027 and a 50 per cent reduction by FY2030 (para 3.2), and the implementation roadmap schedules the major capital projects in solar and energy efficiency for 2028-2030 (Phase 3).

5. Carbon Emissions Management Policy (continued)



BAHRIA UNIVERSITY CARBON EMISSIONS MANAGEMENT POLICY

Policy Code: BU-CEMP-2025 Version: 1.0

Bahria University

Figure 37: Carbon Emissions Management Policy, cover: Policy Code BU-CEMP-2025, version 1.0.

5. Carbon Emissions Management Policy (continued)



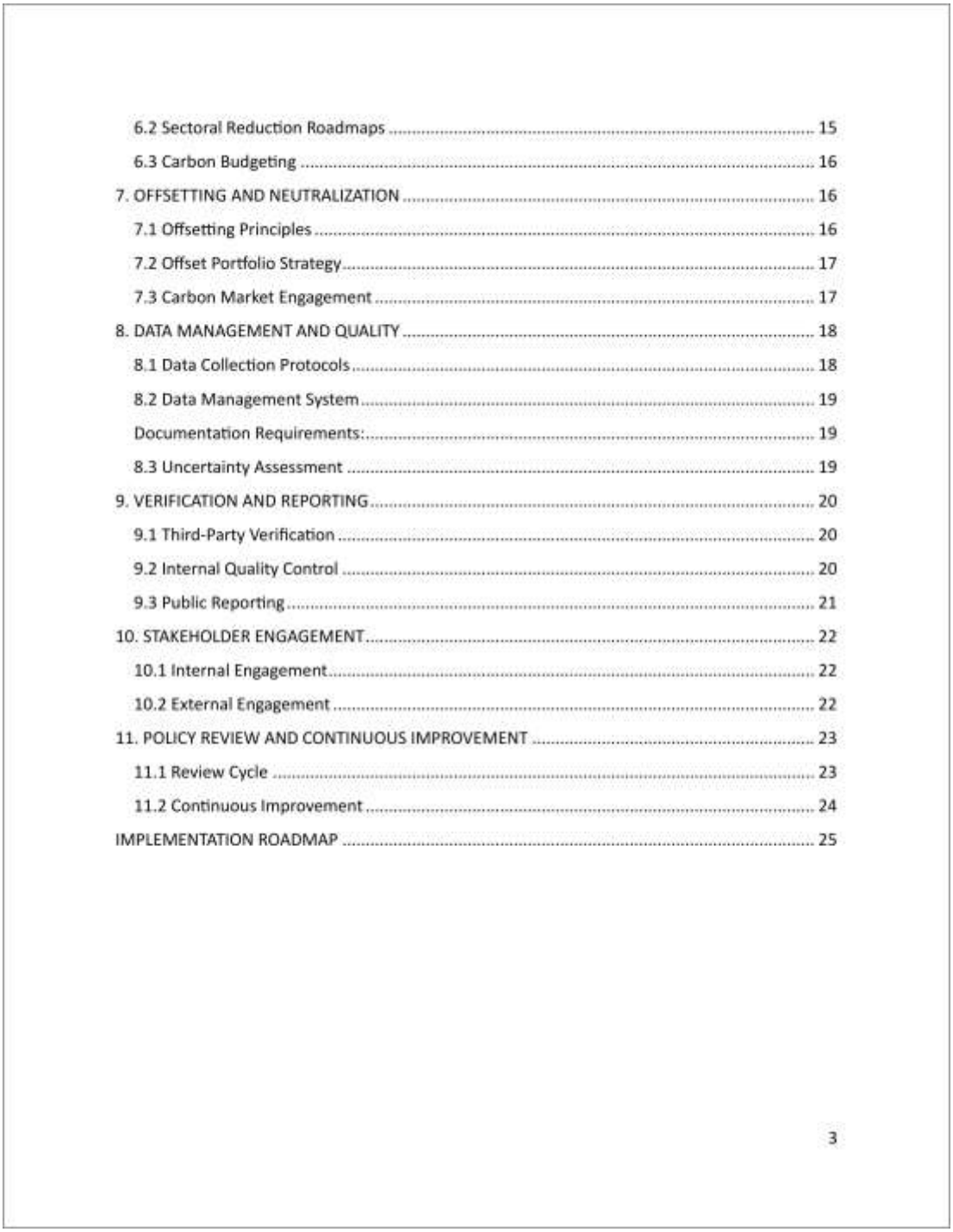
Table of Contents

1. PREAMBLE AND POLICY STATEMENT 4
1.1 Context and Rationale 4
1.2 Policy Statement 4
1.3 Alignment with Standards and Regulations 4
2. DEFINITIONS AND METHODOLOGY 5
2.1 Greenhouse Gas Definitions 5
2.2 Organizational Boundaries 6
3. POLICY OBJECTIVES AND TARGETS 6
3.1 Long-Term Vision 6
3.2 Interim Targets 7
3.3 Scope-Specific Targets 7
4. GOVERNANCE AND RESPONSIBILITIES 8
4.1 Carbon Management Structure 8
4.2 Roles and Responsibilities Matrix 9
5. EMISSIONS ACCOUNTING FRAMEWORK 9
5.1 Scope 1: Direct Emissions 10
5.1.1 Stationary Combustion 10
5.1.2 Mobile Combustion 10
5.1.3 Fugitive Emissions 10
5.1.4 Biogenic Emissions 10
5.2 Scope 2: Indirect Emissions from Energy 10
5.2.1 Purchased Electricity 10
5.2.2 Purchased Heat, Steam, Cooling 11
5.3 Scope 3: Value Chain Emissions 11
5.4 Base Year and Recalculation 13
6. EMISSIONS REDUCTION STRATEGY 14
6.1 Decarbonization Hierarchy 14

2

Figure 38: Carbon Emissions Management Policy, Table of Contents (page 2), sections 1 to 5.

5. Carbon Emissions Management Policy (continued)



6.2 Sectoral Reduction Roadmaps 15
6.3 Carbon Budgeting 16
7. OFFSETTING AND NEUTRALIZATION 16
7.1 Offsetting Principles 16
7.2 Offset Portfolio Strategy 17
7.3 Carbon Market Engagement 17
8. DATA MANAGEMENT AND QUALITY 18
8.1 Data Collection Protocols 18
8.2 Data Management System 19
Documentation Requirements: 19
8.3 Uncertainty Assessment 19
9. VERIFICATION AND REPORTING 20
9.1 Third-Party Verification 20
9.2 Internal Quality Control 20
9.3 Public Reporting 21
10. STAKEHOLDER ENGAGEMENT 22
10.1 Internal Engagement 22
10.2 External Engagement 22
11. POLICY REVIEW AND CONTINUOUS IMPROVEMENT 23
11.1 Review Cycle 23
11.2 Continuous Improvement 24
IMPLEMENTATION ROADMAP 25

3

Figure 39: Carbon Emissions Management Policy, Table of Contents (page 3), sections 6 to 11 and the Implementation Roadmap, including para 6.2, Sectoral Reduction Roadmaps.

5. Carbon Emissions Management Policy (continued): pages cited

3.2 Interim Targets

Third-party verified GHG inventory

S.No	Target	Deadline	Metric
1	Baseline Establishment	FY2024	Complete GHG inventory for FY2024
2	First Verified Inventory	FY2025	25% Reduction FY2027 25% reduction in Scope 1+2 vs baseline
3	50% Reduction	FY2030	50% reduction in absolute emissions (all scopes)
4	75% Reduction	FY2035	75% reduction in absolute emissions
	Net Zero	FY2040	Net-zero emissions (residual neutralized)

3.3 Scope-Specific Targets

Scope 1 (Direct Emissions):

- 60% reduction by 2030 (phase out diesel generators, fleet electrification)
- 90% reduction by 2035
- 100% elimination by 2040 (except emergency backup)

Scope 2 (Energy Indirect):

- 100% renewable electricity by 2030
- Net-zero Scope 2 by 2032

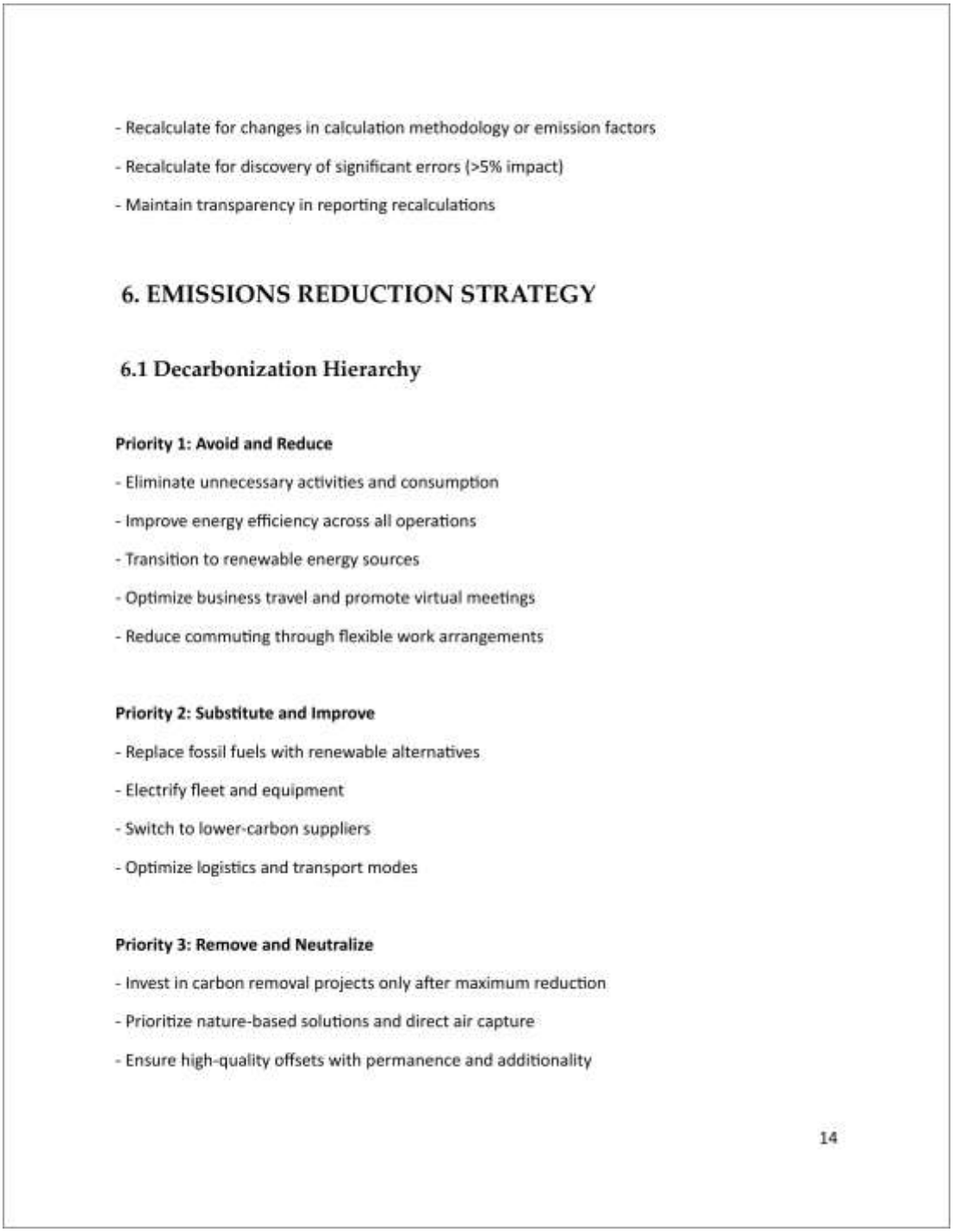
Scope 3 (Value Chain):

- 40% reduction by 2030 (business travel, commuting, procurement)
- 70% reduction by 2035

7

Figure 40: Carbon Emissions Management Policy, page 7: para 3.2, Interim Targets, and para 3.3, Scope-Specific Targets.

5. Carbon Emissions Management Policy (continued): pages cited



- Recalculate for changes in calculation methodology or emission factors
- Recalculate for discovery of significant errors (>5% impact)
- Maintain transparency in reporting recalculations

6. EMISSIONS REDUCTION STRATEGY

6.1 Decarbonization Hierarchy

Priority 1: Avoid and Reduce

- Eliminate unnecessary activities and consumption
- Improve energy efficiency across all operations
- Transition to renewable energy sources
- Optimize business travel and promote virtual meetings
- Reduce commuting through flexible work arrangements

Priority 2: Substitute and Improve

- Replace fossil fuels with renewable alternatives
- Electrify fleet and equipment
- Switch to lower-carbon suppliers
- Optimize logistics and transport modes

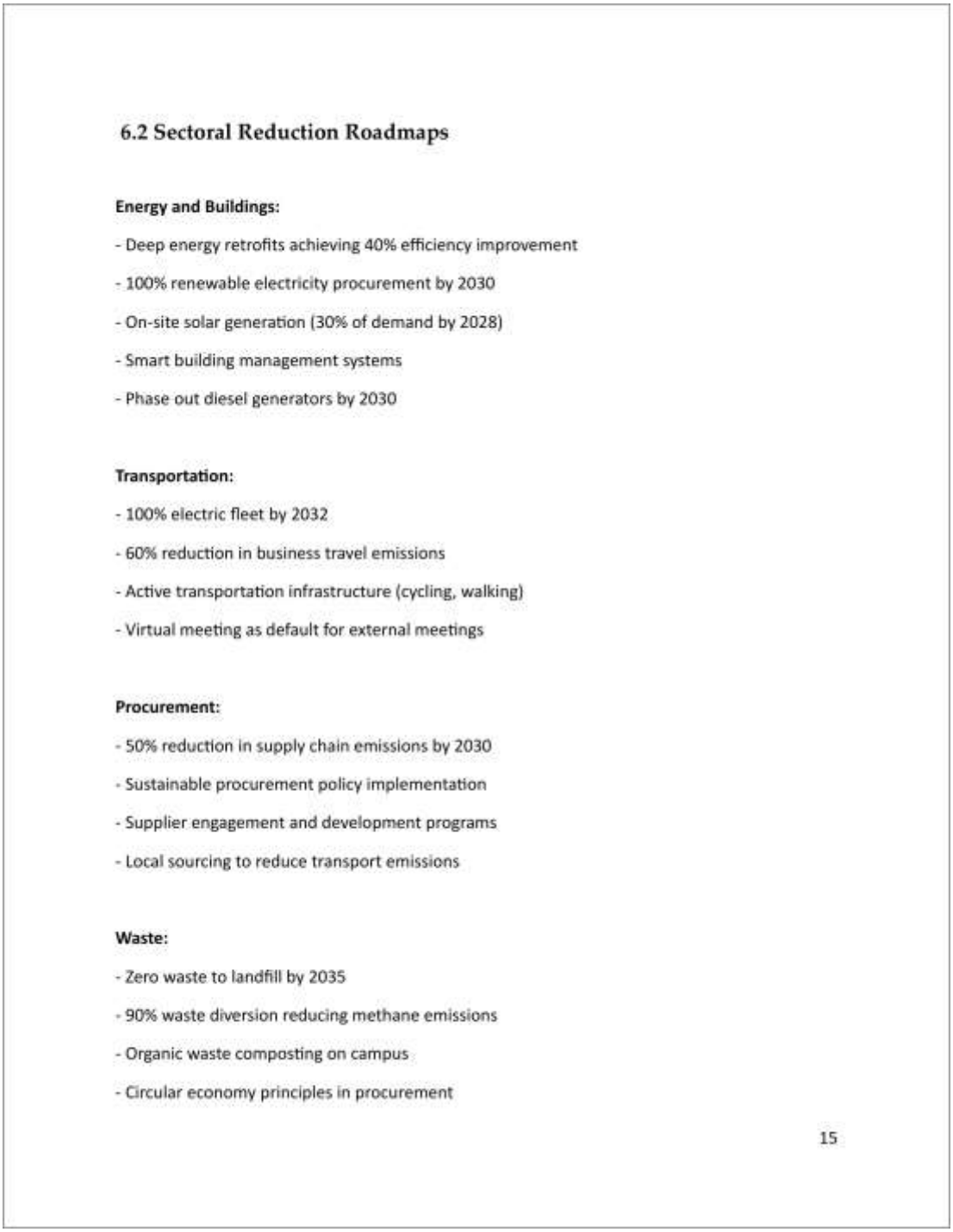
Priority 3: Remove and Neutralize

- Invest in carbon removal projects only after maximum reduction
- Prioritize nature-based solutions and direct air capture
- Ensure high-quality offsets with permanence and additionality

14

Figure 41: Carbon Emissions Management Policy, page 14: para 6.1, Decarbonization Hierarchy, with energy efficiency improvement across all operations as a first priority.

5. Carbon Emissions Management Policy (continued): pages cited



6.2 Sectoral Reduction Roadmaps

Energy and Buildings:

- Deep energy retrofits achieving 40% efficiency improvement
- 100% renewable electricity procurement by 2030
- On-site solar generation (30% of demand by 2028)
- Smart building management systems
- Phase out diesel generators by 2030

Transportation:

- 100% electric fleet by 2032
- 60% reduction in business travel emissions
- Active transportation infrastructure (cycling, walking)
- Virtual meeting as default for external meetings

Procurement:

- 50% reduction in supply chain emissions by 2030
- Sustainable procurement policy implementation
- Supplier engagement and development programs
- Local sourcing to reduce transport emissions

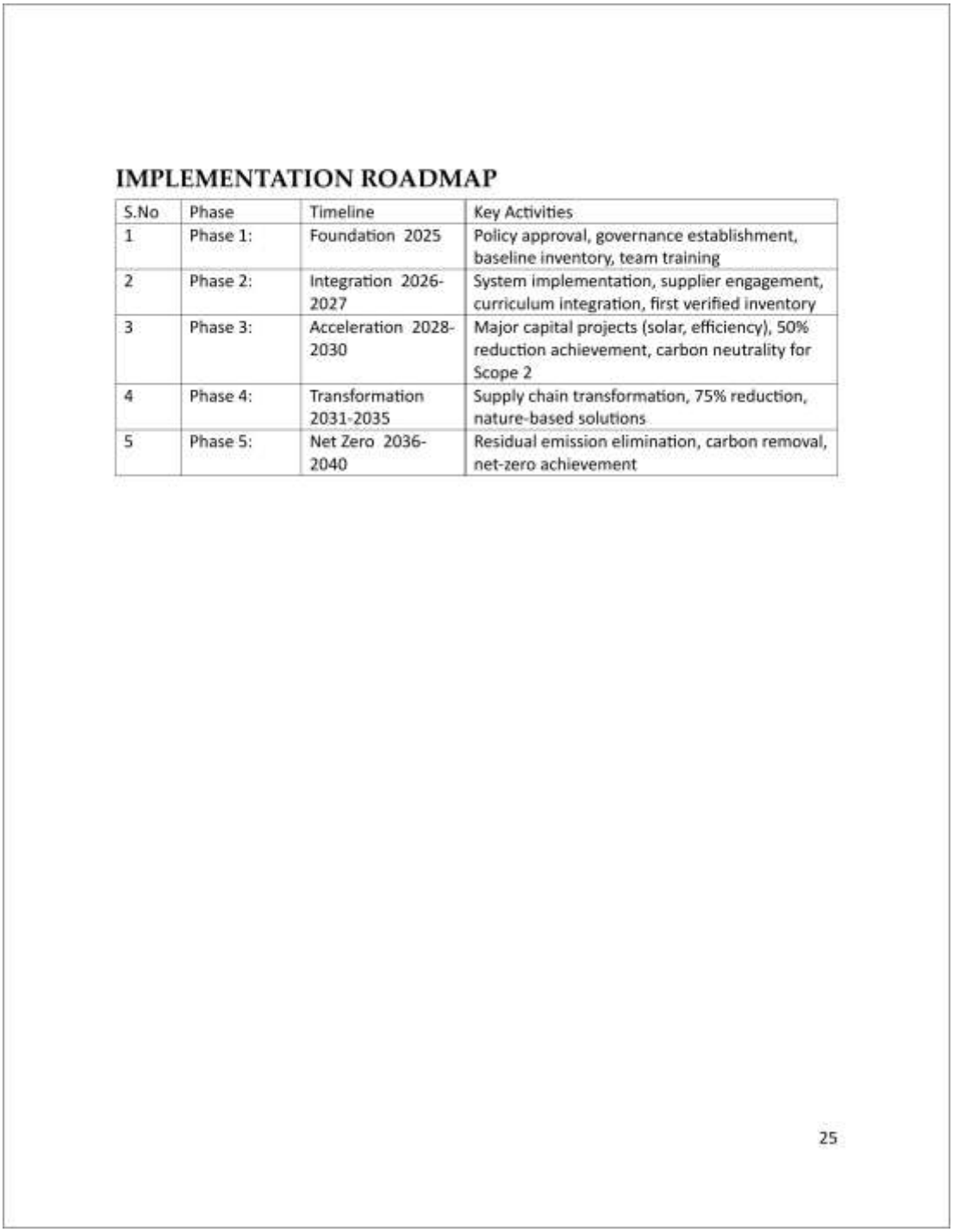
Waste:

- Zero waste to landfill by 2035
- 90% waste diversion reducing methane emissions
- Organic waste composting on campus
- Circular economy principles in procurement

15

Figure 42: Carbon Emissions Management Policy, page 15: para 6.2, Sectoral Reduction Roadmaps, Energy and Buildings.

5. Carbon Emissions Management Policy (continued): pages cited



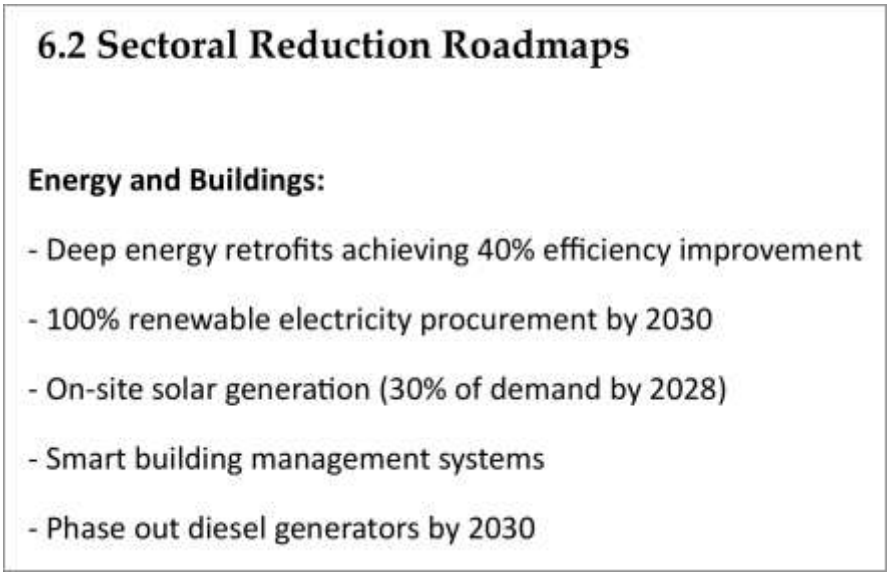
IMPLEMENTATION ROADMAP

S.No	Phase	Timeline	Key Activities
1	Phase 1:	Foundation 2025	Policy approval, governance establishment, baseline inventory, team training
2	Phase 2:	Integration 2026-2027	System implementation, supplier engagement, curriculum integration, first verified inventory
3	Phase 3:	Acceleration 2028-2030	Major capital projects (solar, efficiency), 50% reduction achievement, carbon neutrality for Scope 2
4	Phase 4:	Transformation 2031-2035	Supply chain transformation, 75% reduction, nature-based solutions
5	Phase 5:	Net Zero 2036-2040	Residual emission elimination, carbon removal, net-zero achievement

25

Figure 43: Carbon Emissions Management Policy, page 25: Implementation Roadmap, Phases 1 to 5 (2025 to 2040).

5. Carbon Emissions Management Policy (continued): paragraphs cited



6.2 Sectoral Reduction Roadmaps

Energy and Buildings:

- Deep energy retrofits achieving 40% efficiency improvement
- 100% renewable electricity procurement by 2030
- On-site solar generation (30% of demand by 2028)
- Smart building management systems
- Phase out diesel generators by 2030

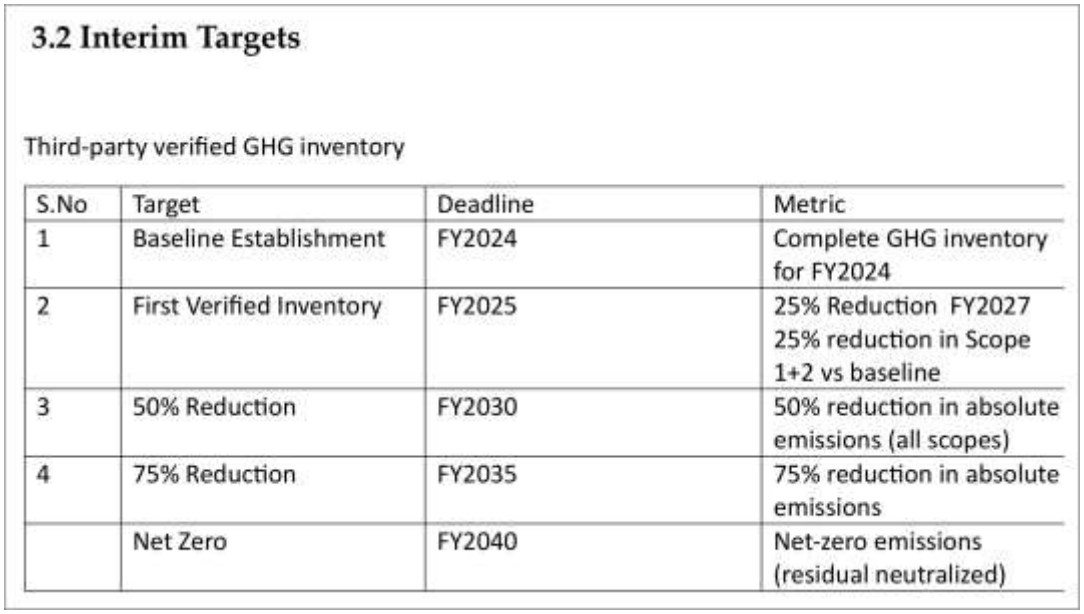
Figure 44: Enlarged extract, page 15: para 6.2, Energy and Buildings; deep energy retrofits achieving 40 per cent efficiency improvement, on-site solar for 30 per cent of demand by 2028, smart building management systems and phase-out of diesel generators by 2030.



IMPLEMENTATION ROADMAP

S.No	Phase	Timeline	Key Activities
1	Phase 1:	Foundation 2025	Policy approval, governance establishment, baseline inventory, team training
2	Phase 2:	Integration 2026-2027	System implementation, supplier engagement, curriculum integration, first verified inventory
3	Phase 3:	Acceleration 2028-2030	Major capital projects (solar, efficiency), 50% reduction achievement, carbon neutrality for Scope 2
4	Phase 4:	Transformation 2031-2035	Supply chain transformation, 75% reduction, nature-based solutions
5	Phase 5:	Net Zero 2036-2040	Residual emission elimination, carbon removal, net-zero achievement

Figure 45: Enlarged extract, page 25: Implementation Roadmap; Phase 3 (2028-2030), major capital projects in solar and energy efficiency.



3.2 Interim Targets

Third-party verified GHG inventory

S.No	Target	Deadline	Metric
1	Baseline Establishment	FY2024	Complete GHG inventory for FY2024
2	First Verified Inventory	FY2025	25% Reduction FY2027 25% reduction in Scope 1+2 vs baseline
3	50% Reduction	FY2030	50% reduction in absolute emissions (all scopes)
4	75% Reduction	FY2035	75% reduction in absolute emissions
	Net Zero	FY2040	Net-zero emissions (residual neutralized)

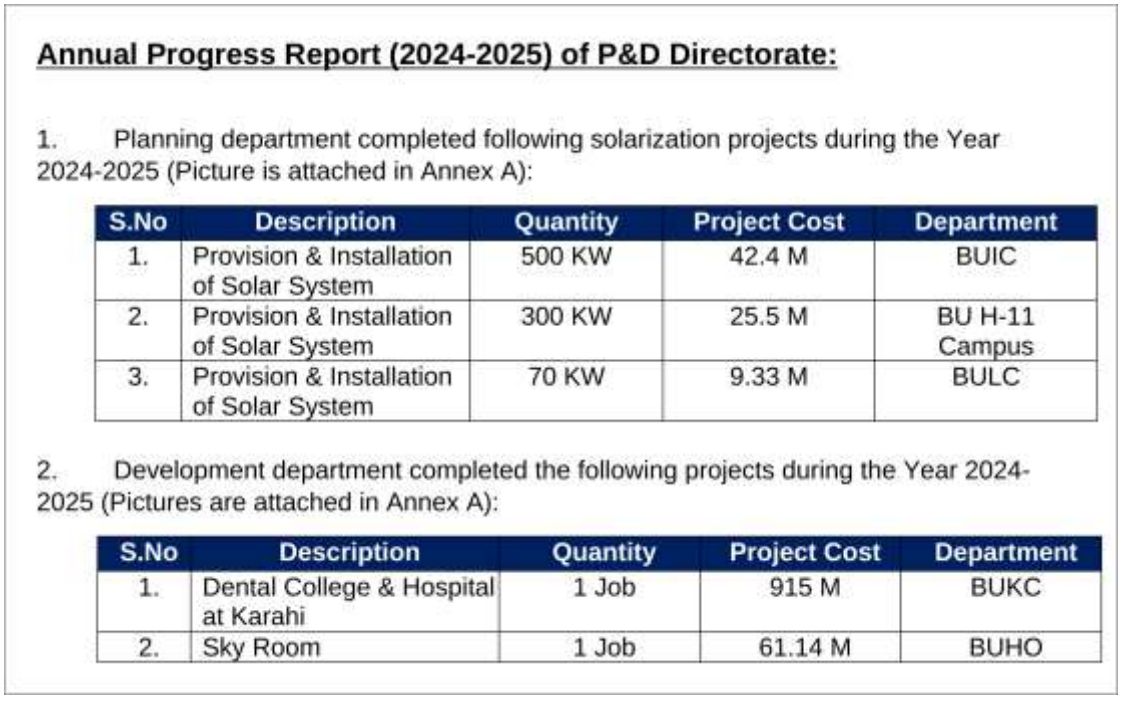
Figure 46: Enlarged extract, page 7: para 3.2, Interim Targets; 25 per cent reduction in Scope 1 and 2 emissions by FY2027 and 50 per cent by FY2030.

6. Upgrades delivered in 2024-25 and 2025

The Annual Progress Report of the Directorate of Planning and Development for 2024-25 records three solarization projects completed during the year at existing campuses, a combined 870 kW, and the renovation of the Sky Room at the Head Office (Table 4 and Figure 47). The solar installations expand renewable supply to existing campuses, and the Sky Room was finished with LED linear and recessed lighting and full-height glazing that admits daylight (Figures 48 and 49). At the Karachi campus solarization was recorded as under process in October 2025.

Table 4: Upgrades of existing campuses completed by the Directorate of Planning and Development, 2024-25

No.	Work	Scope	Cost (PKR million)	Campus
1	Provision and installation of solar system	500 kW	42.4	Islamabad E-8
2	Provision and installation of solar system	300 kW	25.5	Islamabad H-11
3	Provision and installation of solar system	70 kW	9.33	Lahore
4	Sky Room, renovation	1 job	61.14	Head Office, Islamabad



Annual Progress Report (2024-2025) of P&D Directorate:

1. Planning department completed following solarization projects during the Year 2024-2025 (Picture is attached in Annex A):

S.No	Description	Quantity	Project Cost	Department
1.	Provision & Installation of Solar System	500 KW	42.4 M	BUIC
2.	Provision & Installation of Solar System	300 KW	25.5 M	BU H-11 Campus
3.	Provision & Installation of Solar System	70 KW	9.33 M	BULC

2. Development department completed the following projects during the Year 2024-2025 (Pictures are attached in Annex A):

S.No	Description	Quantity	Project Cost	Department
1.	Dental College & Hospital at Karahi	1 Job	915 M	BUKC
2.	Sky Room	1 Job	61.14 M	BUHO

Figure 47: Annual Progress Report (2024-2025) of the Directorate of Planning and Development (extract): solarization projects (500 kW, 300 kW and 70 kW) and development projects completed during 2024-25.

6. Upgrades delivered in 2024-25 and 2025 (continued)



Figure 48: Solarization projects completed in 2024-25: canopy-mounted and rooftop solar arrays. Directorate of Planning and Development, Annual Progress Report 2024-25, Annex A.



Figure 49: Sky Room, Head Office, renovated in 2024-25: LED linear and recessed lighting and full-height glazing. Directorate of Planning and Development, Annual Progress Report 2024-25, Annex A.

6. Upgrades delivered in 2024-25 and 2025 (continued): solar generation

The University's campuses generated 923,403 kWh from on-campus solar systems in 2025 (Table 5), including 360,000 kWh from the 300 kW system at the Islamabad H-11 campus. At the Islamabad E-8 campus two 100 kW systems on the Sir Syed Block and the Business School block were joined by the 500 kW system, for which the campus administration records generation from October 2025 (Figures 50 and 51).

Table 5: Solar energy generated on campus, January to December 2025

Campus	System	Energy generated (kWh)	Source
Islamabad E-8	100 kW, Sir Syed Block	100,134	Campus Admin record
Islamabad E-8	100 kW, Business School block	98,209	Campus Admin record
Islamabad E-8	500 kW, generation from October 2025 (October to December)	66,140	Campus Admin record
Islamabad E-8, total		264,483	University website
Islamabad H-11	300 kW	360,000	H-11 campus record
Lahore	Solar system	55,320	University website
Health Sciences, Karachi	Solar system	243,600	University website
Total		923,403	Sum of the above

University website, Renewable Energy (2025 data for the Islamabad E-8, Lahore and Health Sciences Karachi campuses): https://www.bahria.edu.pk/content/Downloads/c3021b88-9264-4e69-a673-109498816311.pdf

6. Upgrades delivered in 2024-25 and 2025 (continued): solar generation



Figure 50: Islamabad E-8 campus: rooftop solar arrays on the existing academic blocks, with the Bahria Innovation Center in the background. Campus record, undated.



Figure 51: Lahore campus: rooftop solar arrays (top); grid-tied solar inverters and LED ceiling lights (bottom). Campus administration photographs; the inverter and lighting photographs are dated 13 May 2026.

6. Upgrades delivered in 2024-25 and 2025 (continued): lighting and air conditioning

The campus administrations report the replacement of conventional lighting and air conditioning in existing buildings (Table 6). The photographs in Figures 52 to 54 were supplied by the campus administrations in 2026 and are undated.

Table 6: Upgrades of lighting and air conditioning reported by the campus administrations

Campus	Lighting	Air conditioning and other services	Source
Islamabad E-8	Conventional lighting replaced with LED and SMD lights with motion sensors (more than 50 to 75 per cent)	Conventional split air conditioners replaced with inverter units (more than 50 to 75 per cent); solar systems expanded across academic and hostel blocks	Campus Admin, 2026
Islamabad H-11	LED lighting in corridors and offices; LED emergency and outdoor lights	Central air conditioning plant (Figure 52)	Campus Admin, 2026
Health Sciences, Islamabad	LED lights with light detection	Inverter split air conditioning; solar carport (Figure 53)	Campus Admin, 2026
Health Sciences, Karachi	4,020 LED lamps	Metered electricity consumption recorded for 2025	Campus Admin, 2026
Lahore	LED lights, 100 per cent (Figure 51)	Solar panels supplying 25 per cent of the total load	Campus Admin, 2026
Karachi		Solarization under process	Campus record, Oct 2025

6. Upgrades delivered in 2024-25 and 2025 (continued): lighting and air conditioning



Figure 52: Islamabad H-11 campus: LED tube and panel lighting in offices and classrooms, LED desk lighting, LED emergency light and LED outdoor light (top row and bottom left); central air conditioning plant and variable refrigerant flow outdoor units (bottom centre and right). Supplied by the campus administration, undated.

6. Upgrades delivered in 2024-25 and 2025 (continued): lighting and air conditioning



Figure 53: Health Sciences campus, Islamabad: LED lights with light detection (top); solar carport and inverter split air conditioner (bottom). Supplied by the campus administration, undated.



Figure 54: Health Sciences campus, Karachi: LED ceiling lamps. Supplied by the campus administration, undated.

7. Summary of evidence

Element	Evidence	Figures
Existence of plans	Strategic Management Plan, Objective 5.9: annual building energy reviews and electricity reduction targets of 5 to 20 per cent by 2029-30; Rector's directive of 24 November 2025 on energy audits and upgrades. Current HSE Policy: annual energy audits and renewable KPIs (6.2(d–e)), gradual solar transition and environmental audits (6.21(c–d)), solar geysers (6.10(g)).	1 to 21
Upgrade measures, targets and timeline	Existing building retrofit for 40 per cent efficiency improvement by 2030; BMS, smart LED controls, HVAC improvement of at least 25 per cent and deep retrofit of older buildings. SCAP 5.1.1 sets 30 per cent rooftop solar by 2027; its separate Phase 2 timeline runs 2028–2030, with transition and retrofits completed 2030–2035. Energy use intensity reduced 30 per cent by 2030 (SCAP 8.2); supporting CEMP roadmap.	22 to 46
Evidence of implementation	Building energy reviews reported every year since 2021-22; reduction in electricity requirement of 1.43 per cent at University level in 2024-25 (Lahore 10 per cent) and 7.14 per cent in 2025-26 (Health Sciences Islamabad 50 per cent); 870 kW of solar installed at three campuses and Sky Room renovated in 2024-25; 923,403 kWh of solar energy generated in 2025; LED and inverter air conditioning replacing conventional units; solarization under process at Karachi	14 to 19; 47 to 54; Tables 3 to 6
In place by 2025	Strategic Management Plan targets since 2020-21, with reported progress in 2024-25; Rector's 24 November 2025 directive; SCAP effective 7 December 2025; HSE register records a November 2025 edition. Current HSE requirements are reproduced from the third edition of July 2026.	2; 14 to 22; Section 6

The records show University-wide plans to upgrade existing buildings, supported by annual building-level targets in the Strategic Management Plan, the Rector's November 2025 audit directive and the Sustainability and Climate Action Policy effective in December 2025. The current HSE Policy provides the reviewed audit and renewable energy requirements. Campus records demonstrate delivery of solar installations, renovated lighting and energy-efficient building services.