Bahria University

Link to your institution's sustainability/climate action policy.

Bahria University has developed its Sustainability and Climate Action Policy outlining the institution's commitments and strategic approach. The policy reflects the University's dedication to reducing its environmental impact, promoting climate resilience, and integrating sustainability into its academic, research, and operational activities.

The policy document is attached below.

BAHRIA UNIVERSITY SUSTAINABILITY AND CLIMATE ACTION POLICY

Policy Code: BU-SCAP-2025 Version: 1.0

Bahria University

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1. PREAMBLE AND POLICY STATEMENT

1.1 Context and Rationale

Pakistan stands at the forefront of climate vulnerability despite contributing less than 1% to global greenhouse gas emissions. The 2022 catastrophic floods caused damages exceeding USD 30 billion, affecting over 33 million people . Pakistan has submitted its third Nationally Determined Contribution (NDC) in September 2025, committing to an economy-wide greenhouse gas reduction target of 50% by 2035 compared to business-as-usual, with an unconditional contribution of 17% . The National Climate Finance Strategy (NCFS) 2024 estimates climate finance needs of USD 348 billion for climate-resilient development by 2030 .

Bahria University, as a federally chartered public sector institution established by the Pakistan Navy, recognizes its moral, ethical, and institutional obligation to contribute to national climate resilience and global sustainability goals. This policy operationalizes the University's Vision "to become a knowledge and creativity driven international university that contributes towards the development of society" and its Mission "to ensure academic excellence through deliverance of quality education and applied research in a collegiate environment having strong linkages with industry and international community to meet the societal challenges" .

1.2 Policy Statement

Bahria University is committed to achieving carbon neutrality across all campuses by 2040, integrating climate action into every aspect of its operations, research, teaching, and community engagement. This commitment aligns with Pakistan's NDC targets, the National Climate Change Policy 2021, and the global 1.5°C pathway under the Paris Agreement. The University shall serve as a living laboratory for climate solutions, demonstrating leadership in sustainable higher education while building national capacity for climate resilience.

1.3 Legal and Policy Framework

This policy is developed in accordance with:

- Pakistan Climate Change Act 2017

- National Climate Change Policy 2021 (Updated)

- Pakistan's Nationally Determined Contributions (NDC 3.0, 2025)

- National Climate Finance Strategy 2024

- National Adaptation Plan 2023

- Higher Education Commission (HEC) guidelines on sustainability

- United Nations Sustainable Development Goals (SDGs), particularly SDG 13 (Climate Action)

- Paris Agreement on Climate Change

2. DEFINITIONS AND TERMINOLOGY

S. NO	Term	Definition
1	Carbon Neutrality	Achieving net-zero greenhouse gas emissions by balancing emissions with removals or offsetting through verified carbon credits
2	Climate Resilience	The capacity of the University to anticipate, prepare for, respond to, and recover from climate-related disruptions
3	CORE-CF	Center of Research Excellence in Climate Finance at Bahria University
4	Decarbonization	The process of reducing carbon dioxide emissions through eliminating fossil fuel use and transitioning to renewable energy
5	ESG	Environmental, Social, and Governance criteria for measuring sustainability performance
6	GHG Protocol	The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard developed by WRI and WBCSD
7	Green Procurement	Purchasing goods and services that minimize environmental impact throughout their lifecycle
8	Living Laboratory	Using campus facilities and operations as real-world testing grounds for sustainability research and education

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

- Develop specialized degree programs in climate finance, climate science, and sustainability management

- Establish mandatory climate literacy modules for all students and staff

- Support interdisciplinary climate research through CORE-CF and allied centers

Objective 4: Circular Economy and Waste Elimination

- Achieve zero waste to landfill by 2035 through reduction, reuse, recycling, and composting

- Implement comprehensive single-use plastic elimination program by 2026

- Establish circular economy principles in all procurement and disposal decisions

- Achieve 90% diversion rate for construction and demolition waste

Objective 5: Biodiversity and Ecosystem Restoration

- Achieve net-positive biodiversity impact across all campuses by 2035

- Protect and restore native vegetation, creating ecological corridors

- Eliminate use of harmful pesticides and herbicides by 2027

- Establish campus as urban biodiversity sanctuary

Objective 6: Sustainable Mobility

- Reduce single-occupancy vehicle commuting by 60% by 2030

- Achieve 50% electric or hybrid fleet for all university vehicles by 2028

- Establish comprehensive active transportation infrastructure (cycling, walking)

- Implement comprehensive travel demand management programs

3.2 Scope

This policy applies to:

- 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

4. GOVERNANCE STRUCTURE

4.1 University Sustainability Council (USC)

Composition:

- Rector (Chairperson)
- Pro-Rector (Academics)
- Pro-Rector (Research)
- Pro-Rector (Administration)
- Director General, Islamabad Campus
- Director, Bahria Innovation Center
- Head, CORE-CF
- Director, Quality Assurance
- Manager, CORE-CF
- Consultants, CORE CF
- Research Associates, CORE CF
- One alumni representative
- One industry/community representative

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

Each campus shall establish a Sustainability Officer/ Manager

Functions:

- Campus-level implementation of policy objectives
- Localized sustainability programming
- Monitoring and reporting campus performance
- Engagement with local communities and authorities

4.4 Integration with CORE-CF

The Center of Research Excellence in Climate Finance (CORE-CF) shall serve as the technical advisory body for:

- Carbon accounting methodology and verification
- Climate finance mechanisms for campus sustainability projects
- Research-data integration from campus operations
- Policy advocacy and thought leadership
- Capacity building and training programs

5. STRATEGIC PILLARS AND IMPLEMENTATION FRAMEWORK

PILLAR 1: ENERGY TRANSFORMATION AND DECARBONIZATION

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

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

5.2.3 Fleet Electrification

- Replace all diesel/petrol campus vehicles with electric alternatives by 2032
- Install EV charging infrastructure (minimum 20% of parking spaces by 2028)
- Transition to electric buses for inter-campus transport
- Implement telematics and route optimization for all fleet vehicles

5.2.4 Travel Demand Management

- Implement flexible work/study policies reducing commute needs
- Establish carpooling platforms with priority parking incentives
- Phase out single-occupancy vehicle parking subsidies
- Implement parking cash-out programs for eligible employees

PILLAR 3: WATER STEWARDSHIP AND RESILIENCE

Target: Water positive campuses by 2035; 50% reduction in municipal water dependence

Key Initiatives:

5.3.1 Water Efficiency

- Install smart metering and leak detection systems across all facilities
- Replace all fixtures with high-efficiency models (low-flow faucets, dual-flush toilets)
- Implement greywater recycling for irrigation and cooling tower makeup
- Deploy smart irrigation systems with soil moisture sensors and weather-based controls
- Eliminate water-intensive landscaping through xeriscaping

5.3.2 Alternative Water Sources

- Install rainwater harvesting systems achieving 30% of irrigation needs
- Explore treated wastewater reuse for non-potable applications
- Implement stormwater management through bioswales, rain gardens, and permeable surfaces
- Establish constructed wetlands for water treatment and biodiversity

5.3.3 Water Quality Protection

- Eliminate use of chemical fertilizers and pesticides in landscaping
- Implement integrated pest management (IPM) protocols
- Establish buffer zones around water bodies
- Regular water quality monitoring and reporting

PILLAR 4: WASTE ELIMINATION AND CIRCULAR ECONOMY

Target: Zero waste to landfill by 2035; 90% waste diversion by 2030

Key Initiatives:

5.4.1 Waste Reduction

- Implement comprehensive single-use plastic elimination program
- Establish reusable container programs for food services
- Digitize processes to minimize paper waste (target: 80% reduction by 2028)
- Implement sustainable procurement policies (see Policy 2)
- Establish "Right to Repair" facilities for electronic equipment

5.4.2 Waste Segregation and Collection

- Deploy standardized color-coded bin systems across all campuses
- Implement centralized waste collection with tracking
- Establish collection points for specialized waste (e-waste, batteries, hazardous materials)
- Deploy reverse vending machines for beverage containers

5.4.3 Recycling and Composting

- Establish on-site composting facilities for organic waste
- Partner with certified recyclers for all waste streams
- Implement construction waste management plans for all projects
- Establish "Free Store" for reusable items exchange
- Develop waste-to-energy pilots for residual waste

5.4.4 Circular Economy Integration

- Implement "design for disassembly" in all new construction
- Establish material banks for construction material reuse
- Partner with industry for industrial symbiosis opportunities
- Develop circular economy curriculum and research programs

PILLAR 5: BIODIVERSITY AND ECOSYSTEM SERVICES

Target: Net-positive biodiversity impact by 2035

Key Initiatives:

5.5.1 Habitat Conservation and Restoration

- Conduct biodiversity baseline assessments at all campuses
- Protect and restore native vegetation communities
- Establish ecological corridors connecting green spaces
- Create pollinator gardens and butterfly habitats
- Install bird and bat boxes and wildlife-friendly infrastructure

5.5.2 Sustainable Landscaping

- Eliminate invasive species and restore native plant communities
- Reduce lawn areas by 50% in favor of native meadows and food gardens
- Implement organic landscaping practices
- Establish campus food forests and edible landscapes
- Create "green walls" and rooftop gardens for urban cooling

5.5.3 Ecosystem Services Enhancement

- Quantify and value ecosystem services provided by campus green infrastructure
- Integrate green infrastructure for stormwater management
- Establish urban heat island mitigation through strategic tree planting
- Create outdoor learning spaces and living laboratories

PILLAR 6: CLIMATE RESILIENCE AND ADAPTATION

Target: Climate-resilient operations by 2030; full adaptation planning by 2028

Key Initiatives:

5.6.1 Climate Risk Assessment

- Conduct comprehensive climate vulnerability and risk assessments
- Model future climate scenarios (2050, 2100) for campus locations
- Assess risks: flooding, heat stress, water scarcity, extreme weather, disease vectors
- Integrate climate risk into enterprise risk management framework

5.6.2 Infrastructure Resilience

- Climate-proof all new infrastructure (design for 2050 climate)
- Retrofit critical infrastructure for extreme weather resilience
- Establish backup power and water systems for emergencies
- Implement flood protection measures where required
- Design buildings for passive survivability during outages

5.6.3 Operational Continuity

- Develop climate adaptation plans for each campus
- Establish early warning systems for extreme weather
- Create emergency response protocols for climate events
- Build redundancy in critical systems (IT, utilities, supply chains)
- Train staff and students in climate emergency preparedness

5.6.4 Community Resilience

- Partner with local communities for joint resilience planning
- Share campus resources during climate emergencies (cooling centers, shelter)
- Support local climate adaptation initiatives
- Contribute to regional climate risk assessments

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6. INTEGRATION WITH ACADEMIC MISSION

6.1 Curriculum Integration

Mandatory Climate Literacy:

- All undergraduate programs shall include a 3-credit hour "Climate Change and Sustainability" course by 2027

- All postgraduate programs shall integrate climate-relevant modules in core curricula

- Professional development programs shall include climate risk and sustainability training

Specialized Programs:

- Expand CORE-CF offerings in Climate Finance (MS/PhD)

- Develop BS and MS programs in Climate Science and Policy

- Launch professional certifications in Carbon Accounting, ESG Analysis, and Sustainability Management

- Establish executive education programs on climate leadership

Interdisciplinary Integration:

- Require climate/sustainability components in engineering, business, law, and social sciences

- Support development of climate-focused capstone projects and theses

- Integrate campus sustainability data into coursework (living laboratory approach)

6.2 Research Excellence

Research Priorities:

- Climate finance and green investment strategies (led by CORE-CF)
- Climate risk assessment and financial stability
- Nature-based solutions for climate adaptation
- Circular economy and industrial decarbonization
- Climate policy and governance
- Just transition and climate equity

Research Infrastructure:

- Establish Climate Data Center with high-performance computing for climate modeling
- Create living laboratory facilities for testing climate solutions
- Develop partnerships with national and international climate research institutions
- Secure external funding for climate research (target: PKR 100 million annually by 2030)

6.3 Campus as Living Laboratory

Student Engagement:

- Integrate campus sustainability operations into coursework and research
- Support student-led sustainability projects and startups
- Establish "Sustainability Scholars" program for student research assistants
- Create annual campus sustainability innovation challenge

Data and Transparency:

- Open campus sustainability data for research and education

- Publish annual sustainability reports using GRI Standards and GHG Protocol
- Maintain public dashboard of real-time energy, water, and waste metrics
- Support faculty research using campus operations data

7. STAKEHOLDER ENGAGEMENT AND PARTNERSHIPS

7.1 Internal Stakeholders

Students:

- Establish Student Sustainability Ambassadors program
- Integrate sustainability into student orientation and campus life
- Support student sustainability organizations and clubs
- Include sustainability in student leadership development

Faculty and Staff:

- Provide sustainability training and professional development
- Integrate sustainability into performance evaluations and recognition
- Establish Green Office certification program
- Support faculty research in sustainability

7.2 External Partnerships

Government and Regulatory:

- Collaborate with Ministry of Climate Change & Environmental Coordination
- Partner with Pakistan Climate Change Authority
- Align with Higher Education Commission sustainability initiatives
- Support implementation of National Climate Finance Strategy

Industry and Finance:

- Partner with banks and financial institutions for climate finance research
- Collaborate with renewable energy companies for campus projects
- Engage with technology providers for smart campus solutions
- Work with construction industry on green building standards

International Collaboration:

- Partner with global universities for joint research and student exchange
- Engage with international climate networks (UNFCCC, COP, etc.)
- Collaborate with multilateral development banks (World Bank, ADB, etc.)
- Participate in global sustainability ranking and reporting frameworks

Civil Society and Communities:

- Partner with NGOs for community-based climate adaptation
- Engage local communities in campus sustainability initiatives
- Support climate education in schools
- Participate in national climate awareness campaigns

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%

	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)

- Participate in Times Higher Education Impact Rankings
- Report to HEC on sustainability metrics
- Contribute to national climate reporting frameworks

8.4 Verification and Assurance

- Engage accredited third-party verifiers for GHG inventory (annual)
- Conduct internal audits of sustainability performance (quarterly)
- Participate in external sustainability assessments and rankings
- Maintain documentation and records for audit trails

9. COMPLIANCE AND ACCOUNTABILITY

9.1 Roles and Responsibilities

Rector:

- Ultimate accountability for policy implementation
- Resource allocation for sustainability initiatives
- External representation on climate leadership

Head CORE CF / Manager CORE CF:

- Overall management
- Laision and Implementation
- External representation on climate leadership

Campus Sustainability Officer / Manager:

- Day-to-day policy implementation and coordination
- Performance monitoring and reporting
- Stakeholder engagement and communications

Deans and Department Heads:

- Academic integration of sustainability
- Faculty and student engagement
- Resource efficiency in academic operations

Campus Directors:

- Campus-level implementation and performance
- Local stakeholder engagement
- Emergency preparedness and response

All Employees and Students:

- Compliance with sustainability policies and procedures
- Active participation in sustainability initiatives
- Reporting of sustainability concerns and opportunities

9.2 Incentives and Recognition

- Include sustainability performance in performance evaluations
- Establish sustainability awards and recognition programs
- Provide financial incentives for green building certifications

- Support professional development in sustainability

9.3 Non-Compliance

- Progressive disciplinary procedures for policy violations
- Regular compliance audits and corrective action plans
- Integration of sustainability compliance into contractual requirements

10. POLICY REVIEW AND AMENDMENT

Review Cycle:

- Comprehensive policy review every two years
- Annual review of targets and action plans
- Ad-hoc review triggered by significant changes in regulations or circumstances

Review Process:

- Stakeholder consultation (faculty, staff, students, external experts)
- Performance assessment against targets
- Benchmarking against national and international best practices
- Alignment with updated national climate policies and NDCs
- Approval by University Sustainability Council and ACM

Amendment Authority:

- Minor amendments: Chief Sustainability Officer with USC approval
- Major amendments: ACM on recommendation of USC

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