# NUML Sustainable Building

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# Construction Policy

**Year 2025**

## 1. Purpose and Rationale

The National University of Modern Languages (NUML) recognizes that sustainable construction and environmentally responsible infrastructure development are essential components of its institutional commitment to environmental protection, energy efficiency, resource conservation and sustainable campus development.

This policy establishes an institutional framework to ensure that all new buildings, infrastructure projects, major extensions and substantial renovations undertaken within NUML premises incorporate appropriate environmental sustainability considerations.

NUML shall continue to comply with applicable national laws, regulations, procurement requirements, engineering standards and construction regulations, including the applicable requirements of the Capital Development Authority (CDA) in Islamabad and the relevant Public Procurement Regulatory Authority (PPRA) framework.

The policy further aims to integrate sustainability requirements into the planning, design, approval, procurement, construction and post-construction stages of university development projects.

## 2. Objectives

The objectives of this policy are to:

1. Promote environmentally sustainable construction across all NUML campuses.
2. Reduce energy consumption through efficient building design, lighting, cooling and ventilation.
3. Encourage renewable energy integration, particularly solar energy.
4. Promote efficient water use, rainwater harvesting and wastewater recycling wherever feasible.
5. Encourage the use of environmentally responsible, durable and locally available construction materials.
6. Maximize natural lighting, natural ventilation and green spaces.
7. Minimize construction-related environmental impacts and waste generation.
8. Ensure compliance with applicable national and local construction regulations and environmental requirements.

## 3. Applicable Legal and Regulatory Framework

All NUML construction and development projects shall be planned and executed in accordance with the applicable laws, regulations, codes and standards, including:

| Regulatory framework | Application to NUML |
|---|---|
| Pakistan Green Building Code | National framework for environmentally sustainable building design and construction. |
| Building Code of Pakistan | Structural safety, building design and applicable engineering requirements. |
| Building Code of Pakistan – Energy Provisions | Energy conservation and efficiency in building systems. |
| Rainwater Harvesting Provisions of the Building Code | Rainwater collection, filtration, storage and reuse, where applicable. |

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| CDA Building Regulations | Construction approvals, building plans and development requirements within CDA jurisdiction. |
| Federal PPRA Rules and Regulations | Transparent procurement of construction works, consultants, materials and services. |
| Applicable provincial/local development authority regulations | Construction requirements at NUML regional campuses, according to their respective jurisdictions. |
| Applicable environmental laws and regulations | Environmental protection, waste management and pollution control. |

## 4. Sustainable Construction Requirements

NUML shall incorporate the following sustainability considerations into new construction projects, subject to technical feasibility, applicable regulations and approved project budgets.

### 4.1 Energy Efficiency

- Installation of energy-efficient LED lighting.
- Preference for energy-efficient air-conditioning and ventilation systems.
- Maximum utilization of natural daylight.
- Building orientation and design to reduce unnecessary heat gain.
- Adequate thermal insulation of roofs and external walls.
- Installation of energy-efficient electrical equipment.
- Provision for solar photovoltaic systems or future renewable energy integration, wherever feasible.

### 4.2 Water Conservation

- Installation of water-efficient taps, showers and flushing systems.
- Provision of rainwater harvesting systems, where applicable.
- Collection and storage of rainwater for landscaping and other suitable non-potable uses.
- Reuse of treated wastewater for gardening and landscaping, wherever feasible.
- Installation of water meters and monitoring arrangements.
- Prevention of water leakage through appropriate plumbing design.

### 4.3 Environmentally Responsible Construction Materials

- Preference for durable and environmentally responsible construction materials.
- Encouragement of locally available materials, where technically suitable.
- Use of materials with lower environmental impact and reduced embodied carbon, where feasible.
- Preference for recycled or recyclable materials wherever appropriate.
- Avoidance of materials containing harmful substances beyond permissible limits.
- Proper documentation of material specifications and technical approvals.

### 4.4 Natural Ventilation and Indoor Environmental Quality

- Building designs should maximize natural ventilation wherever climatic and functional conditions permit.
- Appropriate window placement and building orientation should be considered.
- Indoor air quality should be maintained through suitable ventilation systems.
- Use of low-emission paints, adhesives and finishing materials should be encouraged.

- Adequate thermal and acoustic comfort should be incorporated into academic and administrative buildings.

### 4.5 Green Spaces and Landscaping

- Preservation of existing trees wherever possible.
- Plantation of indigenous and climate-appropriate trees.
- Development of green belts, gardens and landscaped areas.
- Preference for drought-resistant plants to reduce irrigation requirements.
- Sustainable stormwater drainage and surface-water management.
- Provision of permeable surfaces wherever technically suitable.

### 4.6 Construction Waste Management

- Contractors shall be required to prepare appropriate construction waste management arrangements.
- Reusable materials shall be separated from general construction waste.
- Recycling and responsible disposal of construction debris shall be encouraged.
- Construction sites shall be maintained in an environmentally responsible manner.
- Measures shall be adopted to minimize dust, noise and other construction-related pollution.

## 5. Sustainability Integration at Different Project Stages

Sustainability shall be considered throughout the construction lifecycle.

| Project stage | Required sustainability measures | Responsible office |
|---|---|---|
| Planning and feasibility | Initial sustainability assessment, energy and water requirements, green-space planning | Planning & Coordination Branch |
| Architectural design | Natural lighting, ventilation, orientation, insulation and landscaping | Architect/Design Consultant & Technical Branch |
| Technical design | Energy-efficient systems, water conservation, renewable energy provisions | Technical Branch /Consultant |
| Procurement | Incorporation of relevant sustainability specifications in tender documents | Technical Branch / Consultant |
| Construction | Compliance with approved designs, material specifications and waste-management requirements | Technical Branch / Consultant |
| Inspection and completion | Verification of installed systems and sustainable construction features | Technical Branch / Consultant |
| Post-construction | Monitoring of energy, water consumption and operational efficiency | Administration/ Technical Branch |

## 6. Sustainability Checklist for New Construction Projects

The following checklist shall be used during the planning, design and technical evaluation of new buildings.

| Sr. No. | Sustainability requirement | Verification/evidence |
|---|---|---|
| 1 | Compliance with applicable Green Building Code | Approved design and compliance certificate, where applicable |

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| 2 | Energy-efficient LED lighting | Electrical specifications and inspection report |
| 3 | Energy-efficient HVAC systems | Equipment specifications |
| 4 | Maximum natural daylight | Architectural drawings |
| 5 | Natural ventilation | Architectural and ventilation plans |
| 6 | Solar energy provision | Solar feasibility/design or installation record |
| 7 | Thermal insulation | Construction specifications |
| 8 | Water-efficient fixtures | Plumbing specifications |
| 9 | Rainwater harvesting | Approved system design and installation record |
| 10 | Wastewater recycling/reuse | Treatment and reuse arrangements, where feasible |
| 11 | Environmentally responsible materials | Material specifications and purchase records |
| 12 | Green spaces and plantation | Landscape plans and completion photographs |
| 13 | Sustainable drainage | Drainage and storm water management plans |
| 14 | Construction waste management | Contractor's waste management plan and disposal records |
| 15 | Environmental and safety compliance | Relevant approvals and inspection records |

Implementation principle: Each project shall be assessed against the applicable requirements. Where a particular measure is technically infeasible or legally inapplicable, the Technical Branch shall record the justification and propose an appropriate alternative.

## 7. Institutional Responsibilities

The following offices shall perform their respective responsibilities to ensure implementation of this policy.

| **Office/Department** | **Responsibilities** |
|---|---|
| Rector/Competent Authority | Approval and overall institutional oversight of the policy and major sustainability initiatives. |
| Administration and Technical Branch | Administrative coordination and implementation oversight. |
| Technical Branch / Consultant | Technical implementation, design review, construction supervision and sustainability verification. |
| Planning and Coordination Branch | Integration of sustainability considerations into project planning, feasibility and development proposals. |
| Technical Branch / Consultant | Incorporation of sustainability specifications in bidding and procurement documents in accordance with applicable procurement rules. |
| Finance Branch | Financial planning and allocation of resources for sustainable construction measures. |
| Environmental/Sustainability Focal Person or RSI Division | Coordination, monitoring, documentation and reporting of sustainability initiatives. |
| Consultants and Contractors | Compliance with approved designs, technical specifications and contractual sustainability requirements. |
| Regional Directors | Implementation of applicable requirements in regional campus development projects, subject to local regulations. |

## 8. Monitoring, Evaluation and Reporting

1. Every new construction project shall maintain a sustainability compliance record.
2. The Technical Branch shall maintain approved drawings, technical specifications, inspection reports and completion certificates.
3. Sustainability features incorporated into each project shall be documented through photographs, technical reports and relevant approvals.
4. Energy and water consumption shall be monitored after the building becomes operational, wherever metering facilities are available.
5. The relevant offices shall provide required information and documentary evidence to the designated institutional sustainability/RSI focal office if available.
6. An annual review shall be conducted to assess implementation progress and identify opportunities for improvement.

## 9. Compliance and Accountability

1. No new construction project shall proceed to technical approval without consideration of applicable sustainability requirements.
2. Sustainability specifications shall be incorporated into project documents and tender specifications, as appropriate.
3. Contractors shall be contractually responsible for implementing the approved sustainability-related specifications.
4. Any deviation from approved sustainability provisions shall require documented technical justification and approval from the competent authority.
5. The Technical Branch shall ensure that sustainability-related features are verified before issuance of the project completion certificate.
6. Non-compliance shall be addressed in accordance with applicable contractual provisions, procurement rules and institutional procedures.

## 10. Policy Review and Amendment

This policy shall be reviewed every three years or earlier if required due to amendments in national building codes, CDA regulations, procurement rules or other applicable legal requirements.

The competent authority may approve amendments to ensure continued alignment with national environmental standards and internationally recognized sustainable construction practices.

## 11. Approval and Implementation

This policy shall come into effect from the date of its approval by the competent authority of NUML. All concerned offices, departments, regional campuses, consultants and contractors shall ensure compliance with its applicable provisions.