UNIVERSITY POLICY NO.031, SERIES OF 2025

POLICY ON SOLAR ENERGY INTEGRATION, ENERGY-EFFICIENT BUILDING RETROFITTING, AND SUSTAINABLE CAMPUS INFRASTRUCTURE UPGRADING

SECTION 1. POLICY DECLARATION

Quezon City University (QCU), in recognition of its institutional responsibility to promote environmental sustainability, energy conservation, climate resilience, and responsible infrastructure development, hereby adopts this Policy on Solar Energy Integration, Energy-Efficient Building Retrofitting, and Sustainable Campus Infrastructure Upgrading.

The University recognizes that existing buildings contribute significantly to institutional energy consumption and that improving their energy performance is essential to reducing operating costs, minimizing environmental impacts, and promoting sustainable campus development.

Consistent with Sustainable Development Goal 7 (Affordable and Clean Energy), QCU shall institutionalize a systematic and phased program for upgrading existing University buildings to higher levels of energy efficiency.

The University shall prioritize energy-efficient building retrofits, improved lighting and cooling systems, energy monitoring technologies, and the integration of solar photovoltaic systems and other appropriate renewable energy technologies.

QCU shall develop a comprehensive Campus Energy Efficiency and Solar Integration Plan to guide the identification, prioritization, financing, implementation, and monitoring of energy-efficiency improvements across its existing buildings.

The University shall ensure that energy-efficiency upgrading initiatives comply with applicable national and local laws, including the Energy Efficiency and Conservation Act of 2019 and the Quezon City Green Building Code of 2025.

This policy establishes the institutional framework for the progressive improvement of existing building energy performance and the responsible integration of solar energy technologies into University infrastructure.

SECTION 2. LEGAL AND POLICY BASES

This policy is anchored on the following legal and regulatory frameworks:

2.1. The 1987 Philippine Constitution. Article II, Section 16 recognizes the right of the people to a balanced and healthful ecology in accordance with the rhythm and harmony of nature.

2.2. Republic Act No. 11285, or the Energy Efficiency and Conservation Act of 2019. Establishes the national framework for energy efficiency and conservation, including energy management and energy performance improvements in buildings.

2.3. Republic Act No. 9513, or the Renewable Energy Act of 2008. Promotes the development, utilization, and commercialization of renewable energy resources, including solar energy.

2.4. Department of Energy Department Circular No. DC2020-12-0026. Adopts the Guidelines on Energy Conserving Design of Buildings, 2020 Edition, establishing applicable energy-efficient building design requirements.

www.qcu.edu.ph @qcu1994 673 Quirino Hwy., Novaliches, Quezon City, Metro Manila, 1116 8806 3081 repl@qcu.edu.ph

2.5. Presidential Decree No. 1096, or the National Building Code of the Philippines. Establishes national requirements governing building construction, renovation, occupancy, and maintenance.

2.6. Philippine Green Building Code. Establishes applicable minimum requirements for improving building environmental performance and resource efficiency.

2.7. Quezon City Ordinance No. SP-3439, Series of 2025, or the Quezon City Green Building Code of 2025. Establishes local green building requirements, including provisions relevant to energy efficiency and renewable energy.

2.8. Applicable Implementing Rules and Regulations of the Quezon City Green Building Code of 2025. Provide the relevant technical and administrative requirements for covered building projects.

2.9. Republic Act No. 9729, or the Climate Change Act of 2009. Promotes climate change mitigation, adaptation, and environmental resilience.

2.10. Applicable Department of Energy Regulations and Government Energy Management Program Requirements. Establish relevant energy management, monitoring, conservation, and reporting obligations for covered institutions.

2.11. Applicable Philippine Electrical Code and Electrical Safety Requirements. Govern the safe design, installation, testing, and operation of electrical systems, including solar photovoltaic installations.

2.12. United Nations Sustainable Development Goal 7. Promotes access to affordable, reliable, sustainable, and modern energy, including improvements in energy efficiency and renewable energy utilization.

2.13. United Nations Sustainable Development Goal 11. Promotes sustainable cities and communities through environmentally responsible infrastructure.

2.14. United Nations Sustainable Development Goal 13. Promotes climate action and the reduction of greenhouse gas emissions.

SECTION 3. OBJECTIVES

3.1. General Objective

To institutionalize the systematic upgrading of existing Quezon City University buildings to higher levels of energy efficiency through the adoption of solar energy technologies, energy-efficient building systems, sustainable infrastructure improvements, and comprehensive energy management practices.

3.2. Specific Objectives

This policy specifically aims to:

1. Establish a comprehensive institutional plan for upgrading existing buildings to higher energy-efficiency standards.
2. Conduct energy assessments and audits to identify opportunities for reducing electricity consumption.

3. Promote the installation of solar photovoltaic systems in technically suitable University buildings.
4. Prioritize energy-efficient lighting, air-conditioning, ventilation, and electrical systems.
5. Encourage building retrofits that improve thermal performance and reduce unnecessary energy consumption.
6. Establish a phased implementation strategy for energy-efficiency upgrading projects.
7. Integrate energy performance and life-cycle cost considerations into infrastructure planning and procurement.
8. Strengthen institutional monitoring of electricity consumption and renewable energy generation.
9. Promote environmental awareness and responsible energy consumption among University stakeholders.
10. Support the University's contribution to SDG 7 and its broader sustainability commitments.

SECTION 4. SCOPE AND COVERAGE

This policy shall apply to all existing buildings and facilities owned, operated, or directly managed by Quezon City University, subject to applicable legal, technical, and contractual requirements.

It shall cover:

4.1. Academic Buildings

Existing classrooms, lecture halls, laboratories, libraries, and other instructional facilities.

4.2. Administrative Buildings

University administrative offices and other institutional workspaces.

4.3. Student Service Facilities

Student activity areas, multipurpose facilities, and other buildings supporting student services.

4.4. Research and Laboratory Facilities

Existing research spaces, laboratories, and technical facilities requiring energy-efficient systems compatible with operational and safety requirements.

4.5. Common and Support Facilities

Corridors, common areas, maintenance facilities, and other applicable University infrastructure.

4.6. University-Managed Off-Campus Facilities

Existing buildings located outside the main campuses where QCU exercises operational control over building improvements.

4.7. Contractors and Service Providers

Architects, engineers, energy auditors, technical consultants, construction contractors, solar equipment suppliers, and other service providers engaged in energy-efficiency upgrading projects.

SECTION 5. GENERAL POLICY GUIDELINES

5.1. Institutional Commitment to Existing Building Energy-Efficiency Upgrading

QCU shall progressively improve the energy efficiency of its existing buildings through systematic assessments, planned infrastructure improvements, and appropriate technological interventions.

Energy-efficiency upgrading shall form part of the University's institutional infrastructure development and sustainability planning.

Projects shall be prioritized based on energy-saving potential, technical feasibility, building condition, safety requirements, operational needs, and available resources.

5.2. Campus Energy Efficiency and Solar Integration Plan

The University shall develop and maintain a Campus Energy Efficiency and Solar Integration Plan.

The plan shall identify:

1. Existing buildings requiring energy-efficiency improvements.
2. Baseline electricity consumption.
3. Opportunities for energy-saving retrofits.
4. Buildings suitable for solar photovoltaic installation.
5. Proposed technologies and infrastructure improvements.
6. Estimated project costs and potential energy savings.
7. Implementation schedules and responsible offices.
8. Funding and procurement requirements.
9. Monitoring and evaluation arrangements.

The plan shall serve as the University's principal roadmap for upgrading existing buildings to higher energy-efficiency levels.

5.3. Energy Audits and Building Performance Assessments

QCU shall conduct or commission appropriate energy assessments of existing University buildings.

Assessments shall examine:

1. Electricity consumption patterns.
2. Lighting system efficiency.
3. Air-conditioning and ventilation performance.
4. Electrical equipment and appliances.
5. Building envelope and thermal performance.
6. Operational schedules and occupancy patterns.
7. Opportunities for renewable energy integration.
8. Potential energy conservation measures.

The findings shall guide the identification and prioritization of building retrofitting projects.

5.4. Solar Photovoltaic System Integration

QCU shall evaluate the installation of solar photovoltaic systems in existing University buildings as a priority renewable energy initiative.

Solar integration projects shall be subject to appropriate technical, structural, electrical, financial, and regulatory assessments.

Feasibility assessments shall consider:

1. Available rooftop or installation area.
2. Roof orientation and solar exposure.
3. Structural capacity and building condition.
4. Existing electrical infrastructure.
5. Expected electricity generation.
6. Installation and maintenance costs.
7. Applicable permits and utility interconnection requirements.
8. System safety, reliability, and operational requirements.

Solar photovoltaic systems shall be installed only after the necessary technical assessments and approvals have been completed.

5.5. Prioritization of Solar-Ready Buildings

The University shall identify existing buildings that may be suitable for solar photovoltaic installation.

Priority consideration may be given to buildings with:

1. Suitable rooftop conditions.
2. Adequate structural capacity.
3. Favorable solar exposure.
4. Significant daytime electricity consumption.
5. Appropriate electrical infrastructure.
6. Favorable technical and economic feasibility.

Buildings requiring substantial structural or electrical improvements shall undergo further assessment before solar installation is approved.

5.6. Energy-Efficient Lighting Retrofitting

QCU shall progressively replace inefficient lighting systems with energy-efficient alternatives.

Lighting retrofit projects may include:

1. Installation of energy-efficient LED lighting.
2. Replacement of obsolete or inefficient fixtures.
3. Installation of occupancy sensors and timers where appropriate.
4. Improved lighting zoning and control systems.
5. Increased utilization of natural daylight where feasible.

All lighting improvements shall comply with applicable illumination, electrical safety, and accessibility requirements.

5.7. Air-Conditioning and Ventilation System Upgrading

The University shall evaluate opportunities to improve the efficiency of existing cooling and ventilation systems.

Upgrading measures may include:

1. Replacement of inefficient air-conditioning units.
2. Installation of equipment meeting applicable energy performance standards.
3. Appropriate cooling system sizing.
4. Improved temperature controls.
5. Preventive maintenance of cooling equipment.
6. Improved ventilation and airflow management.
7. Utilization of natural ventilation where appropriate.

All improvements shall maintain suitable indoor environmental conditions and comply with relevant safety and operational requirements.

5.8. Building Envelope and Thermal Performance Improvements

QCU shall encourage retrofitting measures that reduce unwanted heat gain and improve building thermal performance.

Appropriate measures may include:

1. Roof insulation or other heat-reduction improvements.
2. Energy-efficient glazing.
3. Solar shading devices.
4. Improvements to windows and external openings.
5. Appropriate ventilation enhancements.
6. Other technically suitable passive cooling strategies.

Building envelope improvements shall be evaluated according to structural conditions, technical feasibility, and applicable building standards.

5.9. Energy-Efficient Electrical Systems and Equipment

The University shall promote the upgrading of inefficient electrical systems and equipment.

Measures may include:

1. Replacement of inefficient electrical equipment.
2. Installation of appropriate energy monitoring devices.
3. Improved electrical load management.
4. Use of efficient motors and related equipment.
5. Installation of energy-efficient office appliances.
6. Appropriate electrical system maintenance.

5.10. Renewable Energy and Energy-Efficiency Integration

Solar energy projects shall be implemented in coordination with broader energy-efficiency improvements.

The University shall prioritize reducing avoidable electricity consumption before or alongside investments in renewable energy generation.

Solar installations shall not substitute for necessary improvements to inefficient lighting, cooling, and other building systems.

5.11. Sustainable Procurement and Life-Cycle Cost Evaluation

The University shall incorporate relevant energy-efficiency requirements into procurement specifications for building retrofit projects.

Procurement evaluation shall consider:

1. Compliance with applicable technical standards.
2. Energy performance.
3. Equipment durability.
4. Maintenance requirements.
5. Life-cycle costs.
6. Environmental performance.
7. Technical suitability.

All procurement activities shall comply with applicable government procurement laws and regulations.

5.12. Energy Monitoring and Performance Verification

QCU shall establish appropriate mechanisms for monitoring electricity consumption and the performance of completed energy-efficiency projects.

Where feasible, monitoring shall include:

1. Electricity consumption before and after retrofitting.
2. Solar electricity generation.
3. Electricity consumption offset by solar generation.
4. Building energy-use intensity.
5. Equipment performance.
6. Maintenance and operational requirements.
7. Estimated or measured energy savings.

Performance results shall be evaluated using appropriate baseline data and documented methodologies.

5.13. Environmental and Operational Safety

All building retrofit and solar installation projects shall comply with applicable building, electrical, fire safety, occupational safety, and environmental requirements.

The University shall ensure that energy-efficiency improvements do not compromise occupant safety, instructional activities, laboratory operations, or essential institutional services.

SECTION 6. IMPLEMENTATION MECHANISMS

6.1. Institutional Building Energy-Efficiency Upgrading Program

QCU shall establish an Institutional Building Energy-Efficiency Upgrading Program to coordinate energy audits, building retrofits, solar integration, and related infrastructure improvements.

The program shall be coordinated through the designated office responsible for administration, facilities management, and infrastructure development.

6.2. Building Energy Baseline Assessment

The designated facilities management unit shall compile available electricity consumption records and relevant building information.

The baseline assessment shall identify:

1. Buildings included in the assessment.
2. Historical electricity consumption.
3. Building floor area.
4. Major energy-consuming equipment.
5. Existing energy-efficiency measures.
6. Potential retrofit opportunities.

6.3. Building Prioritization and Project Identification

Based on assessment results, the University shall identify priority buildings for energy-efficiency upgrading.

Priority shall be determined using documented criteria, including expected energy savings, feasibility, operational importance, building condition, and project cost.

6.4. Solar Feasibility Assessment

The University shall conduct or commission solar feasibility assessments for identified buildings.

Assessments shall evaluate structural suitability, solar generation potential, electrical compatibility, regulatory requirements, estimated costs, and expected benefits.

6.5. Phased Energy-Efficiency Upgrading Plan

The University shall prepare a phased implementation plan.

Phase I: Assessment and Planning

- Conduct building energy assessments.
- Establish electricity consumption baselines.
- Identify priority buildings.
- Evaluate solar installation feasibility.
- Prepare preliminary project specifications and cost estimates.

Phase II: Priority Energy-Efficiency Improvements

- Implement approved lighting retrofits.
- Upgrade priority cooling and ventilation systems.
- Improve energy monitoring arrangements.
- Undertake appropriate building envelope improvements.

Phase III: Solar Energy Integration

- Implement approved solar photovoltaic projects in technically suitable buildings.
- Complete required permits and electrical safety assessments.
- Conduct testing, commissioning, and operational verification.

Phase IV: Performance Monitoring and Expansion

- Evaluate energy savings and solar generation.
- Review operational and maintenance performance.
- Identify additional buildings for upgrading.
- Update the institutional energy-efficiency plan.

Implementation shall be subject to approved budgets, regulatory requirements, procurement procedures, and technical feasibility.

6.6. Annual Energy-Efficiency Implementation Plan

The designated coordinating office shall prepare an annual implementation plan identifying:

1. Priority projects.
2. Target buildings.
3. Proposed energy-efficiency measures.
4. Estimated project costs.
5. Implementation schedules.
6. Responsible offices.
7. Expected outputs and performance indicators.

6.7. Technical Review and Approval

All proposed building retrofit and solar installation projects shall undergo appropriate technical review.

The review shall verify compliance with applicable energy-efficiency, building, electrical, structural, and safety requirements.

6.8. Project Monitoring and Documentation

The responsible infrastructure office shall monitor approved project implementation and maintain appropriate documentation.

6.9. Post-Implementation Performance Evaluation

Completed projects shall undergo appropriate performance verification.

Monitoring results shall inform future energy-efficiency investments and institutional sustainability planning.

SECTION 7. ROLES AND RESPONSIBILITIES

7.1. Office of the University President

The Office of the University President shall provide overall institutional leadership, policy direction, and oversight for the implementation of this policy.

7.2. Office of the Vice President for Administration or Equivalent Office

The designated administrative office shall oversee the integration of energy-efficiency upgrading and solar energy initiatives into University infrastructure planning and facilities management.

7.3. Planning and Infrastructure Development Unit

The designated infrastructure development unit shall:

1. Coordinate building retrofit planning.
2. Facilitate technical and feasibility assessments.
3. Prepare project specifications.
4. Monitor infrastructure upgrading projects.
5. Coordinate regulatory approvals.
6. Maintain technical documentation.
7. Prepare project implementation reports.

7.4. Facilities Management and Maintenance Unit

The designated facilities management unit shall:

1. Maintain building energy consumption records.
2. Identify inefficient equipment and systems.
3. Coordinate energy assessments.
4. Monitor completed retrofit projects.
5. Maintain solar energy and energy-efficient equipment.
6. Prepare periodic energy performance reports.

7.5. Sustainability or Environmental Management Focal Office

The designated sustainability focal office shall coordinate institutional sustainability monitoring, environmental reporting, and SDG-related documentation.

7.6. Finance and Budget Office

The designated finance and budget office shall support project cost evaluation and appropriate resource allocation, subject to approved budgets and applicable financial regulations.

7.7. Procurement Unit

The Procurement Unit shall incorporate relevant energy-efficiency specifications into applicable procurement documents and ensure compliance with government procurement regulations.

7.8. Academic and Administrative Offices

Academic and administrative offices shall cooperate with approved energy assessments and infrastructure improvement activities.

7.9. Contractors and Technical Consultants

All contractors, engineers, architects, solar equipment suppliers, and technical consultants shall comply with applicable technical specifications, safety standards, and regulatory requirements.

SECTION 8. MONITORING, EVALUATION, AND PERFORMANCE INDICATORS

QCU shall establish a monitoring and evaluation framework to assess progress in upgrading existing buildings to higher levels of energy efficiency.

Performance indicator	Measurement or monitoring requirement
Buildings assessed for energy efficiency	Number and percentage of existing buildings assessed
Energy-efficiency upgrading projects	Number of approved and completed retrofit projects
Solar feasibility assessments	Number of buildings evaluated for solar installation
Solar photovoltaic installations	Number of buildings with operational solar systems
Installed solar capacity	Total installed capacity in kilowatts-peak (kWp)
Solar electricity generation	Electricity generated in kilowatt-hours (kWh)
Electricity consumption	Building or campus electricity consumption in kWh
Energy-use intensity	Annual electricity consumption per square meter
Lighting retrofit implementation	Number or percentage of fixtures upgraded
Cooling system upgrades	Number of inefficient systems replaced or improved
Energy savings	Verified or appropriately estimated reductions in electricity consumption
Implementation progress	Percentage of planned upgrading activities completed

The University shall evaluate performance using available baseline data, project records, and appropriate measurement methodologies.

Where energy savings are estimated rather than directly measured, the estimation method and assumptions shall be documented.

SECTION 9. DOCUMENTATION AND RECORDKEEPING

To demonstrate institutional implementation and support continuous improvement, QCU shall maintain appropriate documentation of energy-efficiency upgrading initiatives.

Relevant documents may include:

1. Approved institutional policy.
2. Campus Energy Efficiency and Solar Integration Plan.
3. Building energy assessment and audit reports.
4. Electricity consumption baseline records.
5. Solar feasibility studies.
6. Approved retrofit and solar installation project proposals.
7. Technical plans and equipment specifications.
8. Procurement and project implementation records.
9. Photographs of energy-efficiency improvements.
10. Solar installation and commissioning records.
11. Electricity consumption and solar generation reports.
12. Energy savings and performance evaluation reports.
13. Annual energy-efficiency implementation plans.
14. Institutional sustainability reports.

All records shall be maintained in accordance with applicable University records management and government auditing requirements.

SECTION 10. FUNDING AND RESOURCE MOBILIZATION

Implementation of this policy shall be supported through appropriate University resources, subject to approved budgets, applicable financial management regulations, and institutional priorities.

The University may evaluate legally permissible financing and partnership arrangements for energy-efficiency upgrading and solar energy projects.

All funding and procurement arrangements shall comply with applicable government laws and regulations.

SECTION 11. COMPLIANCE AND ACCOUNTABILITY

All concerned University offices, departments, personnel, contractors, and service providers shall support the implementation of this policy.

The designated coordinating office shall monitor the preparation and implementation of the institutional energy-efficiency upgrading plan.

Identified implementation gaps shall be documented and addressed through appropriate corrective measures.

SECTION 12. POLICY DISSEMINATION AND PUBLIC ACCESS

Upon approval, this policy shall be disseminated to all concerned University offices, faculty members, administrative personnel, contractors, and relevant stakeholders.

The policy shall be made publicly accessible through the official Quezon City University website and other appropriate institutional communication platforms.

The University may publish appropriate information concerning approved energy-efficiency upgrading initiatives and renewable energy projects.

SECTION 13. POLICY REVIEW AND CONTINUOUS IMPROVEMENT

This policy shall be reviewed at least once every three (3) years, or earlier when warranted by changes in applicable regulations, energy technologies, institutional infrastructure needs, or sustainability priorities.

The Campus Energy Efficiency and Solar Integration Plan shall be reviewed periodically to reflect implementation progress, available resources, and updated technical assessments.

Proposed policy amendments shall be submitted through the appropriate University approval processes.

SECTION 14. SEPARABILITY CLAUSE

If any provision of this policy is declared invalid or unenforceable by competent authority, the remaining provisions shall continue in full force and effect.

SECTION 15. REPEALING AND AMENDING CLAUSE

All existing University policies, memoranda, guidelines, and procedures inconsistent with this policy shall be reviewed and, where appropriate, amended or superseded in accordance with applicable institutional procedures.

SECTION 16. EFFECTIVITY

This policy shall take effect upon approval by the University President, subject to any additional approval requirements under applicable laws, University governance rules, and institutional procedures.

All concerned University offices shall undertake the necessary measures for its dissemination, implementation, monitoring, and evaluation.

APPROVED BY:

DR. THERESITA V. AYLENZA
University President

Date Approved: May 15, 2025

Cc: *Office of the Vice President for Academic Affairs*
Office of the Vice President for Administration and Finance
Records Management Office