

# UAF ENERGY POLICY 2024

## Introduction

Energy is a critical factor in the social and economic development of nations worldwide. In Pakistan, the energy sector heavily relies on fossil fuels as both primary and secondary energy sources. Unfortunately, nearly 65% of the total energy consumption comes from fossil fuels and natural gas, leading to significant challenges. The rising prices of fossil fuels have exacerbated energy crises, resulting in prolonged blackouts lasting up to 8-10 hours. Additionally, approximately 2.6 billion people (equivalent to 38% of the global population) depend on biomass for cooking purposes.

## Biomass Dependency

In developing countries, households predominantly utilize biomass, including animal dung (cakes), crop roots, agricultural residues, and fuel wood. Shockingly, this accounts for nearly **7%** of the world's primary energy demand. However, the use of fuel wood for cooking and heating has adverse effects, contributing to deforestation. Approximately **70%** of the total population residing in rural areas relies on wood for these purposes, further exacerbating environmental pollution.

## The Urgency for Renewable Energy

Given the severe limitations posed by our current energy landscape, scientists have turned their attention to renewable energy sources. Pakistan, with its abundant solar resources, receives 5-7 kWh/m<sup>2</sup>/day of global solar insolation in most regions. This presents an excellent opportunity to harness solar energy for thermal energy generation.

## Clean Energy and Conservation

In pursuit of sustainability, the University of Agriculture, Faisalabad (UAF), recognizes the importance of clean energy generation and energy conservation. To address heavy electricity bills and ensure a sustainable renewable energy supply on campus, the Competent Authority has established the following committee:

## UAF Energy Policy Committee

The UAF Energy Policy Committee is tasked with formulating and implementing energy-related strategies. Its objectives include:

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1. **Promoting Renewable Energy:** Encouraging the adoption of renewable energy sources, particularly solar energy, within the university premises.
2. **Energy Efficiency:** Implementing energy-efficient practices across campus facilities.
3. **Awareness and Education:** Raising awareness about clean energy and energy conservation among students, faculty, and staff.
4. **Monitoring and Reporting:** Regularly assessing energy consumption, identifying areas for improvement, and reporting progress.

Keeping in view the efficacy of clean energy and need of energy conservation at the University to reduce heavy electricity bills and ensure sustainable renewable energy supply at the campus, the following committee was constituted by the Competent Authority of the University to prepare UAF Energy Policy 2024.

1. Prof. Dr. Anjum Munir, Chairman, Department of Energy Systems Engineering, UAF
2. Dean, Faculty of Agri. Engg. and Technology, UAF
3. Dr. Waseem Amjad, Assistant Professor, Department of Energy Systems Engineering, UAF
4. Dr. Rizwan Tabassum, Assistant Professor, PBI, UAF
5. Dr. Abdul Ghafoor, Assistant Professor, Department of Farm Machinery and Power, UAF

The committee decided the following points to be implemented at UAF as part of the UAF Energy Policy.

To enhance energy efficiency and promote sustainable practices, the University of Agriculture, Faisalabad (UAF) has devised the following action plan as part of its Energy Policy:

**Dean/Directors/Chairmen and Faculty Members Responsibilities:**

- **Switch Off Unnecessary Lights and Appliances:** All faculty members are requested to diligently switch off lights, fans, air-conditioners, and other electrical appliances when leaving their offices, even during working hours.

- **Classroom Management:** After lectures, all lights, fans, and multimedia equipment in lecture rooms and theaters should be promptly turned off. To enforce this, a designated staff member will oversee classrooms and ensure compliance. Minor penalties may be imposed for non-compliance.

#### **Daylight Utilization:**

- **Maximize Sunlight:** Encourage the use of natural daylight during working hours. Minimize the use of artificial lighting, fans, and other electric appliances during daytime.
- **Efficient Electrical Appliance Usage:**
- **Single Appliance per Switch:** Each department must ensure that one switch operates only one electrical appliance (e.g., one tube light or one fan) in offices, labs, classrooms, and restrooms. This practice reduces unnecessary load.
- **Occupancy Sensors and Security:**
  - **Install Occupancy/Proximity Sensors:** The Estate department will install occupancy/proximity sensors across the UAF campus. Additionally, motion sensors should be installed in UAF corridors to automatically switch on lights during nighttime. This not only conserves energy but also enhances security.
- **Transition to Energy-Efficient Solutions:**
  - **LEDs and Efficient Fans:** UAF has already replaced conventional fans and lights with energy-efficient fans and LEDs throughout the campus. Going forward, all newly constructed buildings and infrastructure should incorporate efficient lighting products, including LEDs and energy-efficient fans.
  - **Inverter-Based Air-Conditioners:** Install inverter-based air-conditioners for better energy management.
  - **Replace Faulty or Inefficient Appliances:** Existing faulty, low-efficient, or fused appliances should be replaced with energy-efficient devices wherever possible.

- **Market and Shop Hours:**
  - **Market and Shop Closure Times:** Markets and shops within the university premises should close by 10:00 pm, while utility service shops must close by 10:30 pm.

By implementing these measures, UAF aims to reduce energy consumption, lower electricity bills, and contribute to a sustainable campus environment.