



Low carbon energy tracking

The Women University of Azad Jammu and Kashmir (WUAJ&K) is dedicated to advancing sustainability and reducing its carbon footprint through a strong commitment to low-carbon energy solutions. Located in a naturally green environment with abundant trees and optimal weather conditions, the campus is well-positioned to leverage its advantages for energy efficiency. The University benefits from ample natural daylight, eliminating artificial lighting during the day, and our excellent weather conditions negate the need for air conditioning. Additionally, we use solar panels and UPS backups to ensure a reliable power supply without the environmental impact of traditional generators. By integrating these natural benefits with innovative energy practices, WUAJK is leading the way in creating a more sustainable and eco-friendly educational environment.

Use of hydroelectric power as a main source

The WUAJ&K main power source is hydropower provided by the AJK Electricity Department. By relying on this renewable energy, we effectively avoid the carbon emissions associated with traditional power generation methods, such as diesel generators, and align with our commitment to low-carbon energy tracking. **(Annex I)**

Renewable Energy Integration

Solar Power: Given the ample daylight, small-scale solar systems have been installed across the split campuses, providing clean energy for campus operations and reducing reliance on grid power. Additionally, permanent infrastructure is under construction, where installing high-power solar systems is considered to enhance sustainable energy use.

Solar Water Heating: The WUAJ&K utilizes solar thermal systems for hot water needs. This aligns with abundant sunlight and reduces the need for electric water heaters. **(Annex. II)**

Maximize Daylight Utilization

At WUAJ&K, classroom and office designs are optimized to maximize natural daylight. Windows are strategically placed, and interior spaces are oriented to ensure maximum sunlight penetration, contributing to a more sustainable environment (**Annex II**).

Excellent Weather Conditions

Natural Ventilation: At WUAJ&K, strategically placed windows and vents optimize airflow, helping maintain comfortable indoor temperatures without air conditioning.

Shaded Areas: Shaded zones around buildings enhance cooling by preventing direct sunlight, contributing to the overall heat reduction inside.

Thermal Mass: Buildings incorporate materials with high thermal mass that absorb and release heat throughout the day. This helps to stabilize indoor temperatures, reducing the need for additional cooling or heating.

Forest Location: The campus is forested and surrounded by many trees. This natural environment plays a key role in controlling and stabilizing temperatures across the campus, reducing the reliance on mechanical cooling systems. (**Annex. II and III**)

Optimize UPS Use

Energy Efficiency of UPS Systems: Regularly maintain and ensure that UPS systems are energy-efficient. If they are outdated, consider upgrading to more energy-efficient models.

Smart Power Management: Implement innovative power management practices to optimize UPS backups. This includes managing load distribution and ensuring that only the UPS powers essential equipment.



Energy Conservation Initiatives

Energy Audits: The WUAJ&K conducts regular energy audits to identify and address inefficiency. The audits focus on insulation, window glazing, and other energy-saving measures.

Behavioral Practices: At WUAJ&K, energy-saving behaviors such as unplugging devices and minimizing unnecessary electrical equipment use are actively encouraged across the campus. To further promote these practices, notices are placed in every classroom, reminding students and staff to turn off lights when not in use. Additionally, security staff conduct daily evening inspections to ensure compliance.

Annex. I

<https://www.ajkpdo.gok.pk/home/completed-projects/>



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- [Home](#)
- [Message of Chairman](#)
- [Board of Directors](#)
- [Organizational Chart](#)
- [Site Map](#)
- [Contact Us](#)

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COMMISSIONED / OPERATIONAL PROJECTS

Important Links

- About Us
 - Functions
 - Objectives & Policies
- Sections
- Officers Profiles
- PDO Projects
 - Completed Projects
 - On-Going Projects
 - Future Projects
 - Total Potential
- PPC Projects
 - Completed Projects
 - Projects Under Construction
 - Projects Under 50MW

Sr. #	Power Stations	Cap. (MW)	Investment Cost (M. Rs.)	Year of Completion	Status
1	Kundal Shahi	2.00	100.00	1997	Isolation mode
2	Kathai	3.20	150.00	1998	—
3	Leepa	1.60	102.00	1999	—
4	Jagran-1	30.40	3800.00	2000	Grid Mode
5	Changan	0.05	1.00	2008	Isolation mode
6	Sharian	3.20	400.00	2011	—
7	Halmat	0.32	32.00	2013	—
8	Ranger-I	0.60	69.00	2013	—
9	Qadirabad	3.00	400.00	2014	—
10	Rehra	3.20	400.00	2015	—
11	Sharda	3.00	400.00	2015	—

Annex. II



Annex. III

