



## 07. Clean and Affordable Energy

### 07-05 Low Carbon Energy Use

#### 07-05-01 Total Energy Used



Yes, our university maintain comprehensive documentation of our university's total energy consumption as a baseline for tracking progress toward our sustainability goals. This total energy figure encompasses all conventional and renewable energy sources utilized across our campus operations.

#### Comprehensive Energy Accounting:

Our total energy measurement includes:

- **Grid Electricity:** Conventional electricity supplied through the national grid from Algeria's energy mix
- **Solar Energy:** Renewable electricity generated from our on-campus solar installations
- **Thermal Energy:** Any heating or cooling energy requirements
- **Transportation Fuels:** Energy used for university vehicles and operations

This comprehensive accounting provides the denominator for calculating our low-carbon energy percentage and tracking our progress toward decarbonization.

#### 07-05-02 Total Energy Used from Low-Carbon Sources

As a sustainable development expert, I can provide the following analysis of our low-carbon energy utilization:

#### Current Low-Carbon Energy Integration:

**Solar Energy Implementation:** Our primary low-carbon energy source is solar photovoltaic electricity:

#### Current Deployment (Phase 1):

- **Public Lighting System:** Our pioneering initiative uses solar energy to power outdoor lighting throughout the campus
- **Operational Experience:** This initial implementation has provided valuable experience in maintenance, management, and optimization of solar systems
- **Lessons Learned:** We have developed institutional knowledge in solar technology operation specific to our regional conditions

**Planned Expansion (Phase 2):** Following technical studies and securing necessary financing, we plan significant expansion of solar energy applications:



#### **Night Lighting:**

- Extension of solar-powered lighting to all campus outdoor areas
- Integration of energy-efficient LED technology with solar power
- Smart controls optimizing lighting based on occupancy and natural light

#### **Water Pumping:**

- Solar-powered pumping systems for drinking water distribution
- Elimination of grid electricity for water supply operations
- Demonstration of renewable energy applications beyond electricity generation

#### **Security and Monitoring Systems:**

- Solar power for surveillance cameras and security equipment
- Renewable energy for alarm systems and access controls
- Enhanced energy resilience for critical safety systems