

# REPORT OF SDGs 7: AFFORDABLE AND CLEAN ENERGY

**Ensure Access to Affordable, Reliable, Sustainable and  
Modern Energy**



**UNIVERSITAS SYIAH KUALA  
SUSTAINABILITY REPORT  
2023**

# 7 AFFORDABLE AND CLEAN ENERGY



## Ensure Access to Affordable, Reliable, Sustainable and Modern Energy (SDG 7)

USK has launched various initiatives aligned with its commitment to SDG 7. These efforts include improving energy efficiency on campus, closely tracking energy usage, building community partnerships for clean energy solutions, and expanding the adoption of low-carbon energy sources.

### 1. Advancing Energy Efficiency and Emission Reduction on Campus

The university has taken significant steps in building energy efficiency. Policies such as the 2016 Green Campus Rector Regulation and the 2023 Rector's Memorandum emphasize sustainable construction practices. These regulations require that all new constructions and renovations incorporate energy-saving materials, natural lighting, and climate-friendly control systems. To ensure these standards are met, the Green Campus team closely monitors building practices. Upgrading existing buildings to improve energy efficiency is another key component of USK's strategy, including the installation of solar panels on specific faculties, which together generate 254 kWh of renewable energy. LED lighting upgrades have also been implemented, reducing energy consumption by 30%.

In line with these measures, USK has launched carbon and emission reduction initiatives, such as the 2023 Trans Campus program. This project introduced Euro 4-standard low-emission buses in collaboration with the Department of Transportation, reducing private vehicle usage on campus. To further minimize energy consumption, USK has undertaken awareness campaigns, including reminders near electrical panels, encouraging responsible use of energy by campus occupants.



Additionally, energy audits, like the one conducted in the Faculty of Engineering's Building B, have been instrumental in identifying energy wastage and suggesting system improvements. With a divestment policy to reduce reliance on carbon-heavy investments, USK aims to shift towards renewable energy sources such as solar and biomass, reinforcing its commitment to a low-carbon campus.



## 2. Monitoring and Managing Energy Use Density

USK's attention to energy use density highlights a total energy use of 41,187 GJ across 1,159,209 square meters, amounting to

an energy usage rate of 0.04 GJ per square meter. This metric provides a quantitative framework for assessing and optimizing energy efficiency across university facilities.

## 3. Expanding Community Engagement and Clean Energy Partnerships

USK has extended its sustainability initiatives into the broader community, particularly through its Electrical Engineering Department's partnership with local organizations to install solar power systems. For example, a Solar Power Plant in *Aceh Besar* offers community members hands-on experience with clean energy technologies. USK's pledge toward achieving 100% renewable energy is evidenced by its collaboration with the Immunix Group on a 120-hectare solar project, which supports a Purchase Power Agreement with PLN to enhance clean energy production at both local and national levels.

Further reinforcing its dedication to sustainable energy, USK contributes to industrial energy efficiency through research on power loss, aiding local businesses in optimizing energy usage. The university's commitment to clean energy innovation is reflected in projects such as the Mini Hydro Power Plant initiative in *Kemukiman Nosar* and the achievements of its students and teams in competitions like the NECSC and Shell Eco-Marathon. These efforts support both local energy independence and advancements in sustainable mobility.



Low-carbon innovation extends to initiatives like *e-tikbroh.yak*, a digital waste collection service in Banda Aceh, which promotes recycling and waste reduction. Through support for start-ups involved in the low-carbon economy, USK fosters community engagement in sustainable practices

## 4. Progress in Low-Carbon Energy Consumption

Finally, USK showcases its commitment to low-carbon energy by reporting a total energy consumption of 41,187 GJ, with 2,781 GJ sourced from low-carbon options, making up a 7% share. This data underscores USK's gradual yet dedicated transition towards a more sustainable energy profile, aligned with SDG 7 and its commitment to a greener future.

**41,187 GJ**  
Total Energy Used

**1,159,209 m<sup>2</sup>**  
University Floor Space

**2,781 GJ**  
Low-carbon Energy Usage

