



UNION CHRISTIAN COLLEGE ALUVA-2



SSR 5th CYCLE 2023



Criterion 7

7.1.2 Alternate Sources of Energy

Alternate sources of energy and energy conservation measures

The college takes pride in its commitment to sustainability and environmental responsibility. Recognizing the importance of mitigating the impacts of climate change and promoting energy conservation, the institution has undertaken several green campus initiatives focused on alternate sources of energy and energy-saving measures. This report outlines the key initiatives that our college has implemented to reduce its carbon footprint and foster a culture of energy-consciousness on campus.

1. Solar Panels

The Institution, recognizing its responsibility to inspire future generations towards clean and sustainable energy practices, has taken action by implementing a Solar plant project in December 2019. This project involves utilizing alternative sources of energy to reduce reliance on conventional power sources. The installation of a 60 KW rooftop power plant has allowed the

Institution to meet approximately 40% of its total energy consumption. The plant was officially inaugurated in February 2020 and has yielded significant cost savings for the Institution while also promoting an environmentally friendly approach to resource conservation. Furthermore, the surplus electricity generated by the plant is effectively transmitted to the grid of the Kerala State Electricity Board, contributing to the overall energy supply in the region.

(<https://uccollege.edu.in/news/inauguration-of-60kv-solar-power-plant/>).





2. Biogas plant

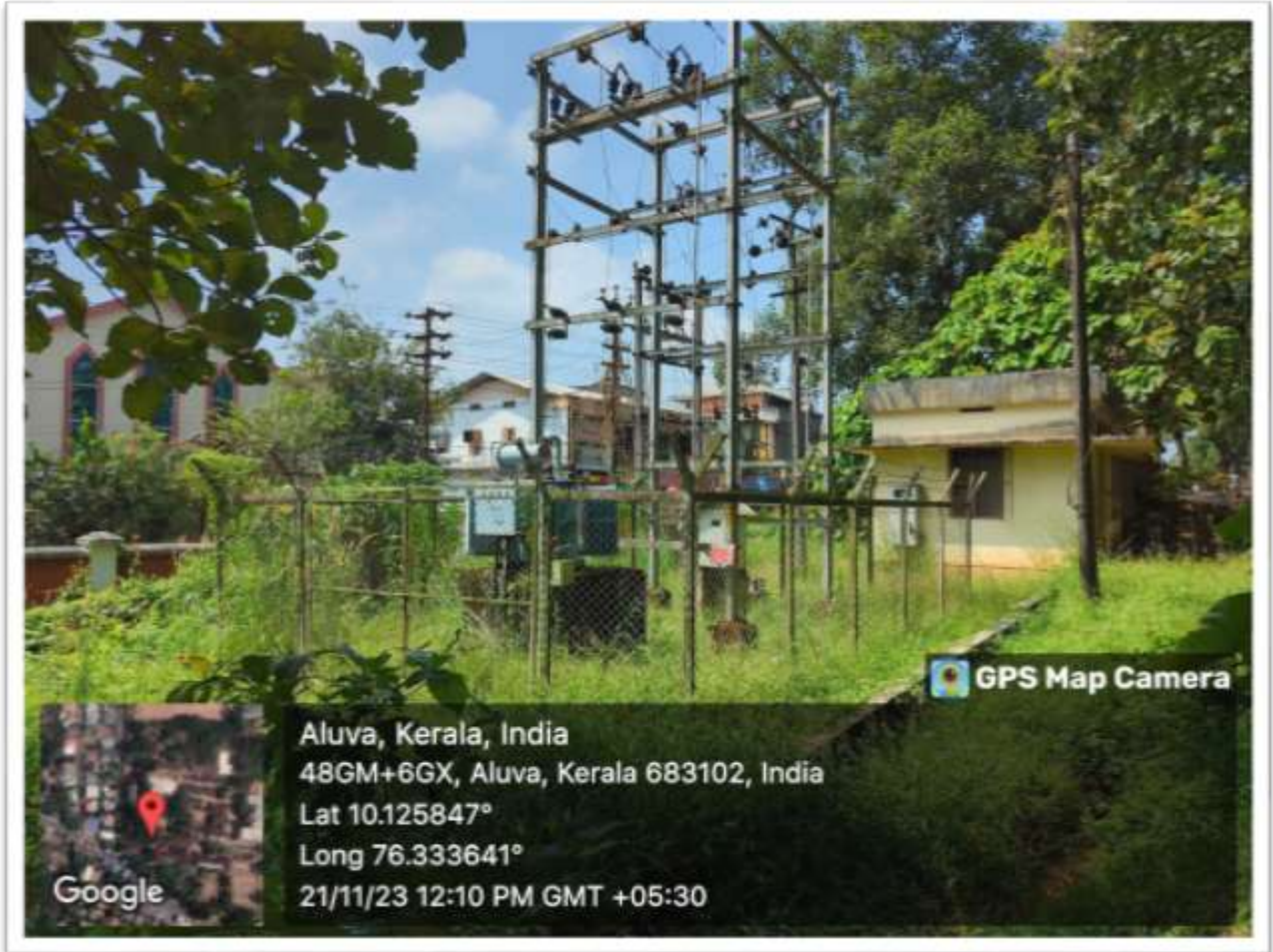
College has invested in a state-of-the-art biogas plant to manage organic waste efficiently. Food waste and other biodegradable materials generated on campus are collected and processed in the biogas plant. The anaerobic digestion process converts this waste into biogas, a valuable source of renewable energy. The biogas is then utilized in the college kitchen and other areas where cooking or heating is required, further reducing the college's dependence on fossil fuels. As a byproduct, the biogas plant also produces nutrient-rich organic slurry that is used as natural fertilizer in the college's gardens and green spaces.



3. Wheeling to the Grid

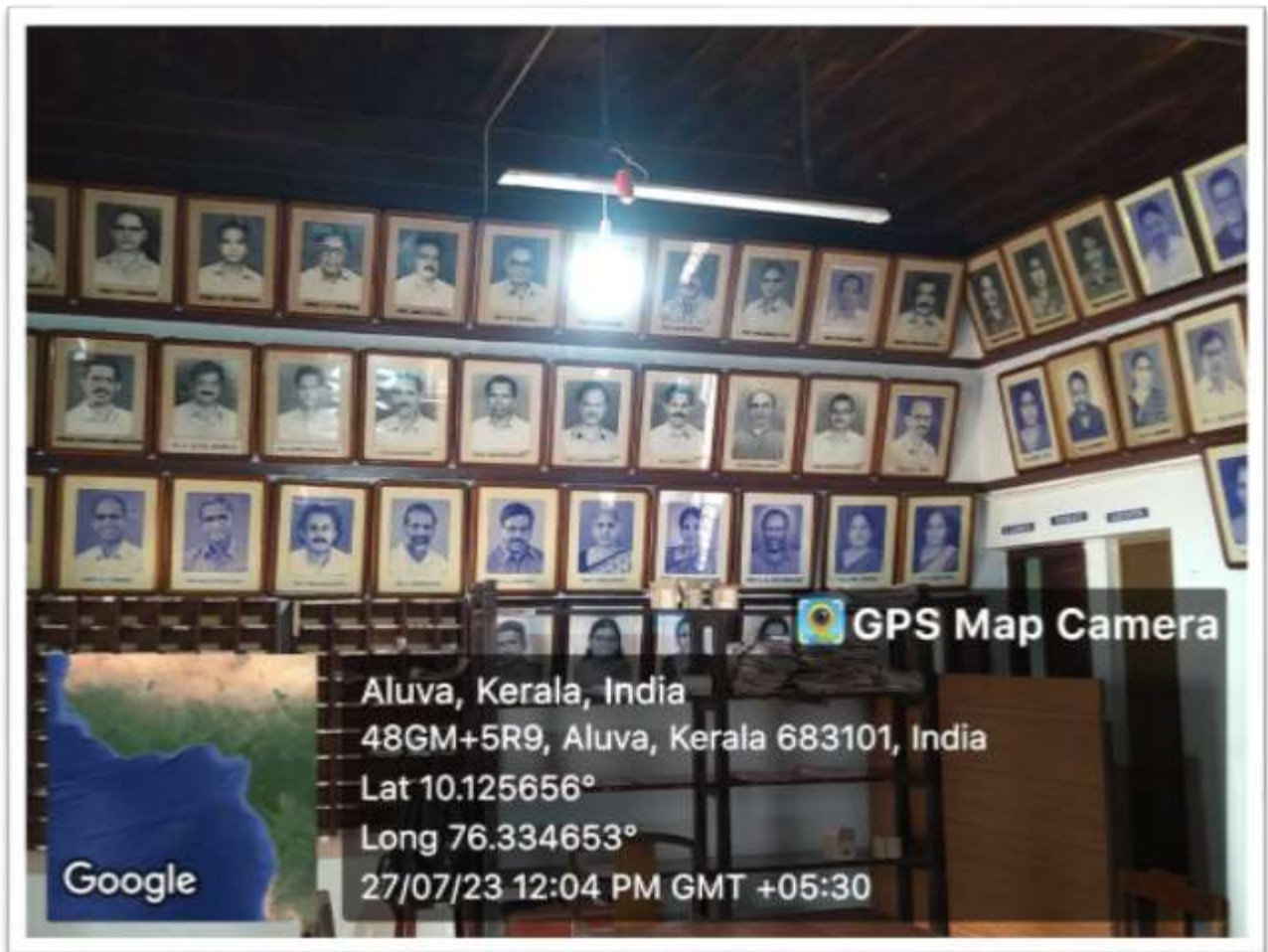
In an innovative move, college has established a "wheeling to the grid" arrangement with the local electricity distribution company. This means that excess solar energy generated on the campus is fed back into the power grid, allowing the college to earn energy credits. During periods of high energy

consumption or low solar output, the college can draw on these credits to meet its electricity needs. This setup not only makes the college self-sufficient in terms of energy but also contributes clean energy to the surrounding community.



4. Sensor-based energy conservation

To optimize energy consumption and minimize wastage, college has adopted sensor-based energy conservation measures. Motion sensors are installed in classrooms, corridors, and restrooms to automatically control lighting and HVAC systems. When a room is unoccupied, the sensors detect the absence of movement and adjust the lighting and temperature accordingly. This technology has proven to be highly effective in reducing unnecessary energy consumption and has resulted in significant energy savings for the college.





5. Use of LED bulbs/power efficient equipments

As part of its ongoing efforts to reduce energy consumption, college has replaced traditional incandescent bulbs with energy-efficient LED bulbs across the campus. LED lighting not only consumes less energy but also has a longer lifespan, reducing the frequency of bulb replacements and e-waste generation. Furthermore, the college has actively procured power-efficient equipment and appliances, such as computers, printers, and air conditioners, which further contribute to energy conservation and cost reduction.



UNION CHRISTIAN COLLEGE, ALUVA

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