7.1.2 Solar Energy Plant Wheeling to the Grid Sensor-Based Energy Conservation Use of LED Bulbs/Power-Efficient Equipment

SOLAR PLANT:

The total power requirement in the campus is 504000kwhr and it is met by renewable energy sources is 136756kwhr. The total installed capacity of solar plant in the campus is 300KWp.Initially 100KWp capacity of solar plant commenced in the year of 2017.Remaining 200KWp installed on B-Block and KU Pharmacy Block in the year 2019.It successfully generating as an average of 4units/KW p er day to cause lighting.

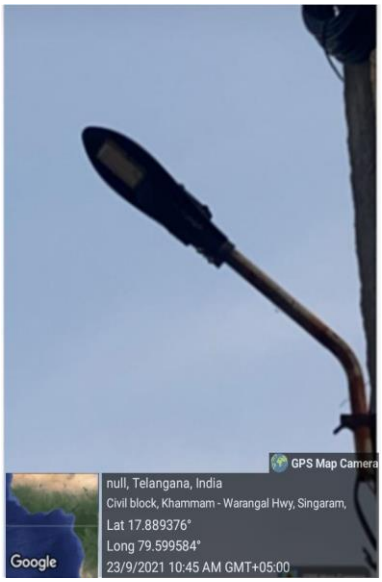
Biogas Plant: Biogas plants offer a sustainable solution for energy production and waste management. By harnessing organic waste, they contribute to renewable energy generation, greenhouse gas reduction, and nutrient recycling, making them a valuable component of a circular economy. As technology and market conditions evolve, the potential for biogas plants to play a significant role in energy and environmental strategies is promising.

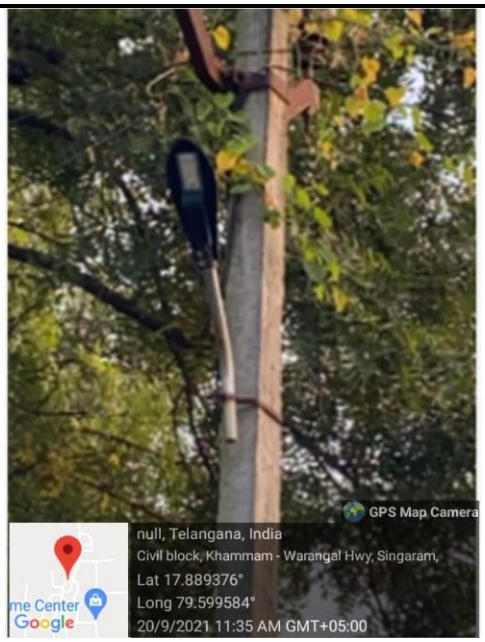
Use of LED Bulbs/ Power-Efficient Equipment :

Using LED bulbs and power-efficient equipment has numerous benefits, both for the environment and for cost savings. Here are some key points:

Benefits of LED Bulbs

1. **Energy Efficiency**: LED bulbs use up to 80% less energy than traditional incandescent bulbs, significantly reducing electricity bills.
2. **Long Lifespan**: LEDs can last 15,000 to 50,000 hours, much longer than incandescent (1,000 hours) or compact fluorescent (10,000 hours) bulbs, leading to less frequent replacements.
3. **Lower Heat Emission**: LEDs emit very little heat compared to incandescent bulbs, reducing the need for air conditioning and improving safety.
4. **Environmental Impact**: Using less energy reduces greenhouse gas emissions from power plants. LEDs are also often free of toxic materials like mercury, making disposal easier.
5. **Variety and Versatility**: LEDs come in various colors and can be used in multiple applications, from residential to commercial and outdoor settings.





Wheeling to the Grid :

"Wheeling to the grid" refers to the process of transmitting electricity from one location to another through the power grid. This concept is often associated with renewable energy sources, such as solar or wind, where energy produced in one area can be distributed to meet demand in another area.

1. **Wheeling Agreements**: These are contractual arrangements that allow the transfer of electricity across transmission lines owned by different utilities. The agreements specify the terms, including fees and responsibilities.

2. **Interconnected Grids**: Electricity grids are interconnected, allowing for the sharing of power across vast distances. This helps balance supply and demand and enhances grid reliability.

3.**Renewable Energy Integration**: Wheeling facilitates the integration of renewable energy sources into the grid, allowing excess energy generated in one region to be transmitted to areas with higher demand.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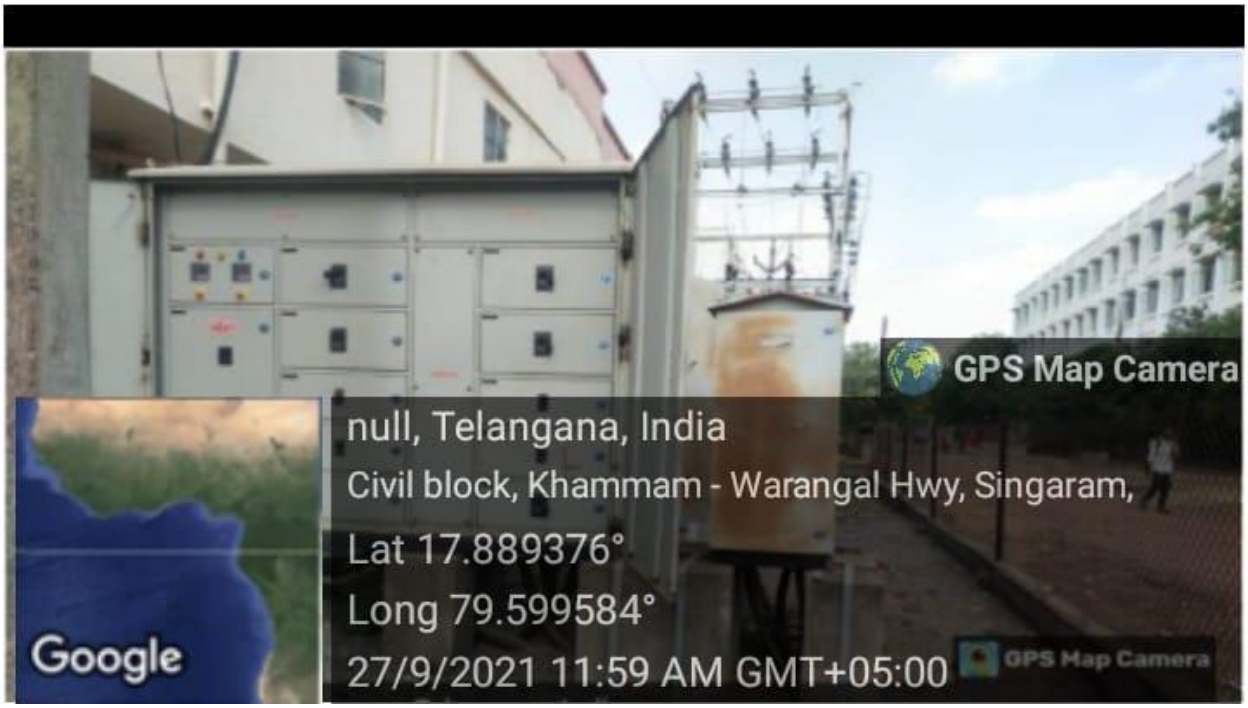
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