Solar power generation in the Polytechnic Dormitory

What is the potential for electrical energy in Jayapura aviation Polytechnic domitory building?
From the PvSyst simulation that has been carried out,it can be obtained that the potential for electrical energy in the Jayapura Aviation Polytechnic Dormitory Building is 323,905 kWh /yearwith a PLTS capacity of 230 kWp with a Performance Ratio of 0,829.

Does solar energy generation potential exceed the energy use of block buildings?
In Fig. 10, the Y-axis exhibited negative values (-10). It was found that after the deployment of solar panels in case B8, the NEUI became negative, indicating that the solar energy generation potential exceeded the energy use for the block buildings.

Which morphological parameters correlate with solar energy development potential?
Poon et al. (2020) correlated 10 major morphological parameters in blocks with the development potential of solar energy resources,finding that the Sky exposure factor (SEF) and the Sky view factor (SVF)had the strongest correlation with the radiant illuminance of roofs and facades in buildings.

Do dormitory blocks save energy?
The research analyzed 55 dormitory blocks and found that the potential for energy savings at the block level was substantial. The difference in cooling EUI varied by up to 35.58% among different blocks,while the difference in heating EUI was even greater,up to 192.4%.

What is the radiation threshold for polycrystalline silicon PV?
When setting polycrystalline silicon PV material and a 25-year life cycle,the radiation threshold is 466 kWh/(m 2 ·y). Lastly,the technical potential denotes the energy generation efficiency of the PV system,primarily affected by PV module efficiency,Integrated efficiency factor and Attenuation rate of PV power generation (Table 7).

Is solar energy consumption more sensitive to urban morphology?
Xia et al. (2021) reported comparable results in their investigation on optimizing building energy consumption and solar potential in residential blocks in Hot-summer and Cold-winter zone in China. The research demonstrated that solar radiation access was more sensitive to the urban morphology variation than energy consumption.

new avenues for large-scale solar power generation and enabled the integration of solar. energy into our everyday lives [7]. Similarly, advancements in solar thermal systems.

A 10 MW photovoltaic grid connected power plant commissioned at Ramagundam is one of the largest solar power plants with the site receiving a good average solar radiation of 4.97 kW h/m2/day and ...

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The Design of A 3 Kw Solar Power Device for Class-Rooms and Offices in the Federal Polytechnic Mubi ... Solar power is a clean, reliable, and noise free source of energy. ... Phani Kanth, B., Ashwani and Sanjeev Sharma, "House ...

Fro m these results obtained a solar power generation system with a power of 9.6 kW to supply the electrical energy needs of each dormitory. The system created can work for 24 hours with...

The book, "SOLAR POWER SYSTEM DESIGN, INSTALLATION AND MAINTENANCE," written by Engr. Prof. M. S. Haruna, provides tools and guidelines for an installer to ensure that residential PV power systems ...

IJE RT In this paper the basic principles of the design of solar power system has been presented. The design so presented could be used for any size of load. Apart from the initial cost, the ...

the use of a tracking device which follows the sun. However, the use of a solar tracker is not practical in a one or two panel solar home system but is necessary in larger systems. Load ...

Although the economic value of the solar power generation system gives a negative value, this could be because for now the electricity system provided by the State Electricity Company is more profitable. ... However, the use of ...

Marine and Fisheries Polytechnic of Kupang is one of the educational centers located in East Nusa Tenggara. The location of the campus is in an area with the potential for solar energy throughout ...

For the generation of electricity in far flung area at reasonable price, sizing of the power supply system plays an important role. Photovoltaic systems and some other renewable ...

This paper proposed a classification method for dormitory blocks, calculated the building energy consumption and solar energy generation potential of 55 blocks, and analyzed the correlation ...

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