

Grid Solar Photo Voltaic (PV) for Electricity

In 2010, Nigeria had no grid solar PV installation. This solar PV will be connected to national grid. It is estimated that the solar potential in Nigeria ranges between 4.0kWh/m²/day to 6.5kWh/m²/day for an average of 5 hours every day.

Level 1

Level 1 assumes that solar PV's contribution remains 0.7GW which produces 1.29TWh and will remain about the same level up till 2050.

Level 2

Level 2 assumes that solar PV capacity reaches 2GW in 2020 producing and 9GW by 2050. This should produce 16.56TWh with 21% capacity factor. At this level it is assumed that a portion of the supply will be integrated into the National grid system and will power about three states as it is anticipated that the country will have solar farms.

Level 3

Level 3 assumes that solar PV capacity reaches 25GW in 2050 thereby producing 43.97TWh. It is assumed that this figure will account for solar PV installed on rooftops in rural areas and more in urban areas which is estimated to multiply rapidly to accommodate the present demand for solar PV technology.

Level 4

Level 4 assumes that solar PV capacity reaches 110GW in 2050 by utilising 0.05% of Nigeria's land mass which should produce 202.36TWh. Level 4 assumes that more solar farms will be built for generating electricity for the national grid.



Grid Connected Solar Photo Voltaic, China

