

Concentrated Solar Power

It is estimated that the solar potential in Nigeria ranges between 4.0 - 6.5kWh/m²/day or an average of 5 peak sun hour per day. The northern parts of Nigeria with latitude 10oN have been identified as having potential for solar CSP power plants. The absence of large bodies of water for cooling and attendant cost could limit the adoption of this technology. 1% of the Nigerian land mass has the potential to generate 500GW of electricity using CSP

Level 1

Level 1 assumes that there will be no solar CSP installations up to 2050.

Level 2

Level 2 assumes that there would be 1GW CSP power plant by 2050 which should generate 1.84TWh of electricity with 20% capacity factor.

Level 3

Level 3 assumes existence of 10GW CSP power plant by 2050 contributing 18.4TWh of electricity by 2050.

Level 4

Level 4 assumes existence of 40GW CSP power plant by 2050 contributing 73.58TWh of electricity by 2050. This requires a huge investment which necessitates the public private partnership.



50 MW Bokpoort CSP Plant owned by ACWA Power in South Africa
Source: CSP Worldwide Status by Dr. Julian Blanco

