

South America Solar System Application Examples

Is solar energy a viable alternative to electricity in South America?

In this way, the implementation of facilities for the generation of electrical energy through clean energy sources has been developed, with solar energy being one of the most attractive alternatives in the region. Table 9 shows a ranking of the countries in South America according to the criterion of installed capacity (MW).

What technologies are used in the solar energy industry in South America?

In the scientific literature reviewed exists a gap considering the implementation of Industry 4.0 technologies in the solar energy industry in South America, such as (i) sensors, (ii) IoT, (iii) cloud computing, (iv) data analytics, (v) artificial intelligence, and (vi) digital twins, among others.

How many solar PV farms are there in South America?

Figure 14 shows the spatial distribution of the number of solar PV farms in operation in each of the South American region's countries. Chile (335), Brazil (218), Argentina (39), and Colombia (30) stand out in first place. Chile has more solar PV farms than Brazil because this country has a greater number of small-scale solar PV farms.

Can large solar PV facilities be implemented in Latin America?

In that sense, it is possible to implement large solar PV facilities in the region. Figure 29 shows a mapping of the future installed capacity for each of the nations in the Latin American region. Figure 29. Mapping of future facilities considering installed capacity in Latin America.

What are the challenges facing solar energy implementation in South America?

According to Figure 17, it is shown that the main challenges facing the implementation of solar energy in South America are economic and political (EP) topics with 29% of repetitions. Then, with 26% of repetitions, we have the intermittent power supply (IPS).

How many solar power plants are there in South America?

As of 2023, there is only one tower concentrated solar power (CSP) facility in operation in the South American region, located in the Atacama Desert region in Chile, with a total installed capacity of 110 MW and a time of stored energy in the form of heat equivalent to 17.5 h.

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