SolarInnovate Energy Solutions

Balancing the Kabul Grid with Energy Storage

Overview

Why is energy important in Kabul?

Energy is one of the most important foundation in growth of a city. Kabul’s demand is 620 MW , but the government can only provide 363.5 MW, and its conventional electrical system is associated with problems like limited interaction, non- or one-way communication, limited power flow control, and cas-cading outages.

How much energy does Kabul have?

Kabul has 363.6 MW (approximately 243.5 MW from Uzbekistan, 70 MW from hydro energy and 50 MW from thermal energy) to meet 620 MW in demand, a shortage of 256.5 MW. 638,607 customers are con-nected to a traditional grid and its limitations . Figure 2. Energy demand and facilities of Kabul . 3.2. Environment 3.3. ICT network.

How much would a public transportation system cost in Kabul?

Public transportation system A public transportation system in the Kabul has been proposed using electric buses at a cost of about $100,000 each. Funding for 10 cars for each of the 22 districts of Kabul would cost $22 million. Electric vehicle: City residents can be encouraged to use electric vehicles instead of diesel and petrol cars.

How much wind energy does Kabul have?

Wind Energy: Kabul experiences prevailing winds from the northwest direction with average speeds between 3.1 and 5.4 m/s . It is esti-mated that Kabul has 41 MW wind capacity . Based on the geography and the strategic devel-opment areas in Kabul, two sites are considered ideal for wind energy development.

What is a smart energy grid?

Smart electricity grids connect flexible electricity demand such as heat pump

electric vehicles to in-termittent renewable sources such as solar and wind. Smart thermal grids connect the electricity and heating sectors, using thermal storage for addi-tional flexibility and recycling heat losses in the en-ergy system.

How much do electric cars cost in Kabul?

The cost of electric vehicles is similar to die-sel/petrol cars but without problematic emissions and savings of energy and money. In Kabul, one in every 10 people owns a private car, and the cost to convert 370,577 fuel cars to electric vehicles would cost about $3 billion .

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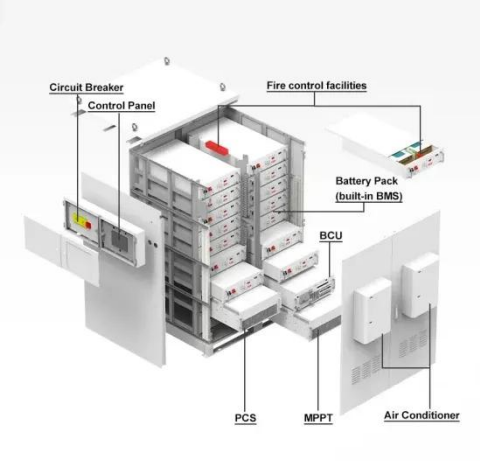

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