The atmospheric concentration of carbon dioxide (CO$_2$) has been increasing and it remained above 400 ppm throughout the year 2016 for the first time. The aviation industry is a main contributor towards green house gas emission. In this regard, aviation industry as a whole and airports in particular are trying to limit their carbon foot print. A feasible solution is to substitute the conventional electricity energy consumption of airport with clean energy sources. Solar PV route is considered as non polluting source of electricity but MW scale plant requires more land area. Since vast areas are mandatory in airport as buffer zones, this land can be effectively used for utility scale solar PV plant. A 2 MWp onsite solar PV power plant is proposed for Raj Bhoj International Airport (RBIA), India. An online PV simulation tool SISIFO, developed by Universidad Politécnica de Madrid (UPM), has been used to analyse the performance of the proposed plant. The PV module rating, inverter and transformer specifications etc. are provided as per manufacturer's datasheet. The plant is capable of generating 2733.122 MWh of electrical energy annually. The monthly averaged energy yield and performance ratio (PR) are 113.88 kWh/kWp and 85.54% respectively, which are best when compared to similar utility scale PV power plants. The economic and environmental benefits of the proposed plant are also discussed. The PV plant generation capacity can surpass the daily electrical energy consumption of airport. This paves way for RBIA to become second airport in the world to be energy self sufficient through solar power.