





The main objective of this article is to show the one year performance of a grid connected 2.2 kW p photovoltaic system installed at the State University of Ceara in the city of a?|



The market estimate for grid-tie photovoltaic systems for 2019 is positive, not only because of increasing acquisitions by Brazilians - today there are more than 30,000 consumer units with distributed generation - but also because, with the global expansion of a?|



such as Brazil, puts pressure as renewable energy needs to be distributed to achieve a more sustainable transition. PV-grid-tie systems are playing a vital role in this transition to the electricity sector due to its benefits regarding the environment and reduced emissions [1].



The backbone of Brazil's energy transmission is the Sistema Interligado Nacional (SIN), or National Interconnected System, encompassing four regional subsystems: South, Southeast, Midwest, North and Northeast.



Chinese power giant State Grid will build a 1,513-kilometre transmission line and two substations in Brazil's north-east, a region experiencing a boom in wind and solar power plants. (Image: Jose Luis Stephens / Alamy)



A grid-tied electrical system, also called tied to grid or grid tie system, is a semi-autonomous electrical generation or grid energy storage system which links to the mains to feed excess capacity back to the local mains electrical grid.