

International Climate Initiative

Climate Partnerships with the Private Sector: Solar Power and Heat Generation in Brazil

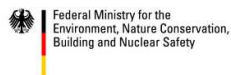
The Brazilian power grid is relatively unstable and has high grid failure rates. This is a major problem, especially for public institutions such as hospitals. In the Brazilian hot water market, more than 70% of Brazilian households are affected by ineffective flow-type heaters. The energy requirement for hot water is approx. 1/5 of the electrical peak load. In order to generate the increasing demand for electrical energy in Brazil in an environmentally sound, cost-effective and fail-safe manner, the diversification and decentralization of electricity generation as well as the use of self-generated power are to be promoted. A national strategy plan for the expansion of solar thermal energy is currently being developed and is intended to set the promotion and expansion targets for solar thermal facilities.

The ²Power plant concept is used to generate and utilize electricity and heat on the basis of solar energy and enables a CO₂-neutral energy generation with a low ecological amortization time. The aim of the climate partnership is the construction of a demonstration facility at a hospital and the subsequent dissemination of a technical overall solution concept for solar electricity and heat generation in Brazil. In addition to the conventional and tried-and-tested technique for the conversion of solar radiation energy into electrical energy, in this system the solar heat is used to heat domestic water. At the same time, the heat dissipated increases the efficiency of the electricity generation. In addition to a comprehensive target market analysis and the adaptation of the technology within the framework of the demonstration system, the project also includes the preparation of a guideline for energy audits at public facilities such as hospitals and retirement homes as well as larger multi-family houses. Relevant target groups such as installers and planners will be trained and decision makers will be familiarized with the technology.

According to a calculation carried out before the start of the project, up to 32,500 kWh of energy and 4,600 kg of CO₂ can be saved in a hospital. With regard to the approximately 7,400 hospitals in Brazil, this results in a potential saving of around 240 GWh in energy and 34,000 t in CO₂. Besides hospitals, the ²Power system can be used in many other buildings as well. The systems with state-of-the-art storage technology can replace emergency power units on fossil fuels basis. In the long term, this can contribute to the reduction of the further expansion of large hydropower plants and the related deforestation of the Amazon rainforest. This project is financed by the International Climate Initiative of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB).

Country:	Brazil
Implementation:	DEG - Deutsche Investitions- und Entwicklungsgesellschaft mbH, Köln
Private sector partner:	PA-ID Automation und Vermarktung GmbH
Total project costs:	399,822 €
BMUB-funding:	199,911 €
Project duration:	11/2015 – 12/2017

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INTERNATIONAL CLIMATE INITIATIVE (IKI)



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