

»» Project Information

Implemented by:



Energy - Brazil

Solar roof generates electricity on roof of World Cup stadium

Sport and energy – They simply belong together. With support from KfW Development Bank, a Brazilian electricity group installed a solar roof on the World Cup stadium in Belo Horizonte. This innovative facility demonstrates that solar power can be obtained efficiently in Brazil. Because although Brazil is blessed with plenty of sunshine, solar energy is still in its infancy there.

Context

The sun is generous to Brazil. Even the place with the fewest of sunshine in Brazil enjoys more solar radiation than the place in Germany with the most. The average daily solar radiation values in the South American country are twice as high as in Germany. But little use is made of the sun's energy.

Since the end of 2012, it has been possible to feed electricity from solar systems with an output of up to one megawatt into the electrical grid in Brazil. The national regulatory authority has established a set of feed-in regulations for decentralised power generation facilities. Remuneration is in the form of "energy credits" that feature on the system owner's electricity bill. The Brazilian government first conducted an electricity auction solely for solar energy in 2014. This marks a further milestone on the path to the breakthrough of this technology.

The use of renewable energy technologies can help to cover the rapidly increasing energy requirements of the dynamic emerging nation. Back in 2008, Germany and Brazil entered into an energy agreement aimed at increasing the use of renewable energy.

Project approach

The German national team won an important victory in the Mineirão stadium on the road to the 2014 FIFA World Cup™, beating the host country 7:1. The stadium can accommodate more than 60,000 spectators. It is also exemplary in terms of energy as solar power is generated on its roof. Since May 2013, this electricity produced in an environmentally-friendly and innovative manner has been fed into the Brazilian grid. The photovoltaic system generates 2,000 megawatt hours of electricity each year.

On behalf of the Federal Government, KfW Development Bank has supported the owner and operator of the

Project name	"Solar World Cup 2014 Minas Gerais"
Commissioned by	Federal Ministry for Economic Cooperation and Development (BMZ)
Country/Region	Brazil/Belo Horizonte
Lead executing agency	Companhia Energética de Minas Gerais (CEMIG).





Sensible use: A photovoltaic system on the roof of the World Cup stadium feeds electricity into the grid. Source: KfW Photo Archive / Florian Kopp.

solar system, electricity group "Companhia Energética de Minas Gerais" (CEMIG), with the installation of the system.

For this purpose, it has funded the "Solar World Cup 2014 Minas Gerais" programme through a EUR 10 million loan. CEMIG has also supported the design and implementation of the project as well as the training of technical personnel. It has also funded the marketing of solar electricity and its infeed into the national electricity network.

What's more, KfW has contributed towards the implementation of solar systems at the world cup venues in Rio de Janeiro and Recife, through financing and support for feasibility studies.

Impact

The solar systems on the roofs of the World Cup stadiums are the best advertisements imaginable for the promotion of renewable energy. Through the FIFA World Cup™, the power generation group CEMIG has been able to raise even more awareness of its climate-friendly energy strategy. The high visibility further enhances the demonstration effect of the systems. If the system proves successful, it could serve as an impulse for the further deployment of this technology — on the rooftops of airports or other buildings in Brazil.

This represents an important contribution towards the efficient and ecologically sustainable generation of electricity and towards global climate protection. The Brazilian energy mix is both diversified and climate-friendly. This increases security of supply. In the long term, Brazil will be able to develop its own market for photovoltaics. In spring 2013, the Brazilian government announced for the first time that it was adopting the political goal of promoting a decentralised energy supply. So this topic will become even more important in national discussion.

The engagement of German collaboration for sustainable development with Brazil in the priority area of energy comprises broadening the offer of long-term financing options, introducing innovative technologies and supporting partners in creating favourable conditions for energy efficiency and renewable energy. It increases expertise in specific areas of technology, assists in the implementation of national programmes and improves access to appropriate financing instruments. German collaboration for sustainable development thus serves regional and global climate and environmental protection while contributing to the security of the country's energy supply.



Contact

KfW Group
KfW Development Bank
Palmengartenstrasse 5-9
60325 Frankfurt am Main, Germany
Phone +49 69 7431 3928
Florian.arneth@kfw.de

KfW Office Brasilia
SCN Quadra 1 – Bloco C.N° 85
Edificio Trade Center – Sala 1706
Brasilia
Brazil
kfw.brasilia@kfw.de