



Sustainability action · Project Renewable Energy and Energy Efficiency

Barra da Paciência, Ninho da Águia, Corrente Grande, Várzea Alegre Small Hydropower Plants, Brazil

These four small hydro projects contributes towards helping Brazil fulfill its goals of promoting sustainable development by providing populations in rural areas with access to a clean and renewable energy source.

Project

The project activity consists of four small hydropower plants (SHPs). The installed capacities range between 7 MW and 23 MW and a reservoir area of less than 8 square kilometers. Due to their characteristics and the way they differ from the larger plants, these SHPs supplement the Brazilian energy matrix, which is currently 83% based on hydropower. Their advantages over the larger plants include: the lower environmental impact due to the reduced reservoir size (SHPs are “run-of-river”, i.e. the reservoir does not allow water flow regularization); shorter implementation period;

100% exemption from a number of sector charges; 50% exemption from the distribution system utilization tariff (TUSD), a discount which is passed on to consumers; the possibility of selling subsidized energy to special consumers; the possibility of selling energy to commercialization companies, without the final consumers losing the tariff discount benefits; exemption from bidding for concessions, as the companies only require ANEEL (Government) authorization; small scale projects with high transmission network reliability; and local economic development.

The regions around the sierra and plateau have abundant water sources. Moreover, the SHPs construction helps to meet the growing energy demand on Rio Grande do Sul state, to decrease the external energy dependency and contributes to the environmental sustainability, as it increases the share of renewable energy in relation to the total consumption of electricity of Brazil.

Checklist	Additionality and permanence	3 rd party verified	Transparency	Annual CO ₂ -reduction	Social and environmental benefits	Marketing material
Project 301 814	According to the rules of the VCS	By TÜV Nord	Provided by Markit Registry	79,670 tCO ₂ e	As documented in our database	Pictures available



Location

The project is located in the municipalities of Gonzaga and Açucena, state of Minas Gerais, Delfim Moreira, state of Minas Gerais, Conceição de Ipanema, state of Minas Gerais, Brazil. The rivers Corrente Grande, Santo Antônio and José Pedro, where the power plants of the project activities are located on, take advantage of the favorable water flow conditions to generate power with minimal environmental impact.

Project achievements

Socio-economic impact

- The project owner implemented the social programs Vale Sonhar, the social Development Program and Casa Cultura Alívio
- The project provides employment opportunities for the local population, generating approximately 400 new jobs, as the plants require teams for operation, management and repair services
- Near the SHP Corrente a small health center, school, church, soccer field and a wastewater treatment system was built
- Construction of houses for families in social vulnerability conditions
- Improved bathrooms, piped water and sewage treatment systems for locals near Barra da Paciência
- A flour and starch factory was built in according to Social Responsibility Program at Barra da Paciência
- Donation of financial resources for the construction and purchase of equipment for the of a clinical laboratory analysis in the municipality of Conceição de Ipanema
- Donation to built a recreational area in the municipality of São José do Mantimento
- Construction of a new bridge over the River José Pedro to improve the traffic flow and the of people from rural communities near SHP Várzea Alegre
- Donation of ambulance to the Ninho da Águia municipality

Environmental impact

- 800,000 native trees were planted during reforestation recovery project and 400,000 seedlings provided to local communities
- Less environmental impact function of small wetlands
- Conservation procedures, combined with the constant monitoring of the teams involved, provides a stable base for future conservation efforts
- Training programs have been created to educate local communities on environmental preservation
- By replacing fossil fuel based thermal power plants with clean small-scale hydro power the projects decreases pollution in the area and the social costs related to it

