

Renewable Energy Project



Rio Ceramics Biomass Project

This project replaces heavy oil with renewable biomass to generate energy at three ceramic brick manufacturing facilities in the state of Rio de Janeiro, Brazil.

Standard



SOCIALCARBON®



Climate
CERTIFIED

Project start date

1 April 2006

Country

Brazil

About your project

The three ceramic facilities which comprise this project are located in Vila Nova in Itaboraí City, São Silvestre in Rio Bonito City and Nova Dutra in Pinheiral City.

Before the implementation of this project, these facilities were using 4.1 million litres of oil a year to produce around 60,000 tonnes of ceramics. The facilities now use two types of biomass to fuel their kilns: wood residue, such as sawdust which is usually discarded as waste, and wood from sustainable afforestation sites. As this wood is supplied by plantations where the removed trees are replanted, it is considered a renewable energy source. By comparison, the oil that was previously used at these facilities released carbon dioxide which has been stored over millions of years along with harmful pollutants such as nitrogen and sulphur dioxides, volatile organic compounds and heavy metals.

Brazil is the world's third highest emitter of greenhouse gases (GHGs) which is largely due to changes in land use (such as farming), illegal logging and the demands of rapid economic growth. Additionally, Brazil's population has more than doubled in the last 40 years which has increased raw material and energy requirements. Sustainable manufacturing projects like this one are vital to help stem the GHGs from the increasing demands of Brazil's development.

Through this project a number of employment and training opportunities have been created including 36 temporary construction roles and nine permanent operating roles.



Vila Nova site



São Silvestre site

These images have been provided by individuals working with the project operators



Sao Silvestre site



Nova Dutra site



Nova Dutra site

These images have been provided by individuals working with the project operators

This project has two verification standards: The Voluntary Carbon Standard which measures the emissions reductions generated by the project, and The Social Carbon Standard which measures the project's contribution to sustainable development. To quantify these activities, the project commits to improving against a set of sustainable development indicators which they are continually assessed against through annual monitoring and independent verification. All three sites have documented improvement goals which they will continue to develop as revenue from carbon finance is generated:

- At **Vila Nova**, the project owner supports a number of local charities and, through an onsite well, makes water available to the local community.
- The **Sao Silvestre** owner works with a local NGO, Mundo Verde, providing an income to slum dwellers through the purchase of the recyclable wood residues they collect.
- The **Nova Dutra** owner provides clay and sponsors a teacher at the Espaco Cultural Francisco de Assis Franca; a local institution that runs pottery classes and social youth projects.
- Another activity at **Nova Dutra** is the donation of bricks to the local community to help rebuild and repair homes.
- Additionally, a new initiative has been identified at **Nova Dutra** which will be developed if enough revenue is raised from carbon credits. This initiative will involve building a small collection and digester system for residential waste, generating biogas to fuel a community kitchen.

About biomass fuel switch

Biomass is all living matter including plants, crops, trees and waste products from milling and agricultural processes. Biomass can substitute fossil fuels – either in part or in full - to generate electricity, heat or both (known as co-generation). Sustainably harvested timber is considered a renewable source of biomass because the trees that are removed are replaced, resulting in no net loss in stored carbon dioxide (CO₂). Waste material such as bagasse (sugar cane stalks) and rice husk are another source of renewable biomass as they are by-products of existing agricultural processes. Using waste biomass for fuel can improve energy sustainability, provide additional income to farmers and overcome disposal issues. Switching to renewable sources of biomass not only prevents the release of CO₂ from fossil fuels, it avoids the ecological damage associated with mining, drilling and transportation of these fuels.



How carbon offsetting helps the project

It is expensive to develop and operate biomass technologies and that is where carbon finance can play an important role. Fuel switch projects like this one are not required by law and often have to overcome financial and technological barriers to realise implementation. Carbon finance provides an additional revenue stream, helping to make these projects an attractive and viable option. In this case, the incentives from carbon finance are enabling energy generation from biomass.

The reductions in CO₂ emissions achieved by this project are incremental to business-as-usual and measured by an independent verifier to internationally recognised standards. These are bought as carbon credits by clients of The CarbonNeutral Company to neutralise their own emissions.

Verification

This project is verified to the Voluntary Carbon Standard (VCS), the Social Carbon Standard and is used to supply The CarbonNeutral Company's Green-e Climate certified offset, The CarbonNeutral Company Offset (Brazil - Renewable Energy) Product.



The map shows South America with Brazil highlighted in orange. An inset photo shows a biomass facility. Arrows point from the inset photo to the location of the project on the map. The map includes labels for neighboring countries (Venezuela, Colombia, Peru, Bolivia, Paraguay, Chile, Argentina, Uruguay) and oceans (North Atlantic Ocean, South Atlantic Ocean, South Pacific Ocean). A legend indicates international boundaries, province boundaries, and rivers/water.

Project co-ordinates:

The geographical coordinates of this project are:

Nova Dutra: latitude 22°34'40" South, longitude 44°01'24" West

Sao Silvestre: latitude 22°43'38" South, longitude 42°41'43" West

Vila Nova: latitude 22°43'50" South, longitude 42°57'03" West