



## The 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, Brazil.

Before the implementation of this project, these facilities were using 4.1m litres of oil a year to produce around 60,000 tonnes of ceramic tiles. 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. The oil that was previously used at these facilities released carbon dioxide which had been stored over millions of years. The burning of oil is also associated 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), being one of the fastest growing major economies in the world with a population that has more than doubled in the last 40 years. Projects like this one are vital to help offset the GHGs from the increasing energy demand driven by Brazil's rapid development.



## Community Benefits

This project is validated against two standards: The Verified Carbon Standard (VCS) which provides the rules and procedures related to the emissions reductions generated by the project, and the Social Carbon Standard, which provides guidance on measuring the project's sustainable development contribution. This is based on a set of indicators that are continually assessed and then independently verified. All three sites have documented goals which they will continue to develop and monitor:

- The owner of the Vila Nova ceramic facility forged a relationship with local children's charity Pestalozzi in 2003. After the implementation of the project, the ceramic facility doubled its monthly donations as well as donating construction material and volunteered labour for the expansion of the children's centre.
- The project has enabled São Silvestre ceramic facility to increase the frequency and amount of donations to a local school, including financially supporting school events and trips such as Environmental Awareness Day.
- The owner of the Nova Dutra ceramic facility formalised a partnership with NGO Espaço Cultural Francisco de Assis França as a result of the project. Assistance has included donating building materials for a new and larger space for the NGO, providing equipment and training, and launching workshops to teach people from the community how to make clay artwork. In April 2009, two of the students were asked to continue the craft as employees of the ceramic facility, providing both women (previously unemployed) with a source of income.

The project has delivered additional economic benefits to the communities it operates within. After the implementation of the Rio Ceramics Biomass Project, 10 – 15 people have been employed by the Favela Complexo do Alemão to collect and handle the biomass supplied to the São Silvestre ceramic facility. The revenue from selling the biomass is used to pay the workers, who were previously unemployed.

## 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 harvested are replaced, resulting in no net loss in stored carbon dioxide (CO<sub>2</sub>). 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 CO<sub>2</sub> from fossil fuels, it avoids the ecological damage associated with mining, drilling and transportation of fossil fuels.

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 thermal energy generation from biomass.

## Verification

This project is verified to the Verified Carbon Standard (VCS) and the the Social Carbon Standard.



**Project area coordinates:** The projects are located in Vila Nova in Itaboraí City, São Silvestre in Rio Bonito City and Nova Dutra in Pinheiral City, Brazil.

