The Kitambar ceramics factory in North-eastern Brazil reduces emissions by switching from unsustainable biomass fuel supplies harvested from native vegetation, to renewable biomass, such as agricultural residues. The project is registered under the Verified Carbon Standard (VCS) and has also been verified to the Social Carbon Standard.
The project
Kitambar is a small factory producing structural ceramic products, such as roof tiles, for the regional market of Pernambuco State in North-eastern Brazil. Prior to the implementation of the project, the factory consumed fuelwood from unmanaged forestry for the kilns, putting pressure on local forests.

Contribution to sustainable development
The project contributes to sustainable development in several key areas:

Energy access
With the help of carbon finance the factory has switched to using renewable biomass resources, including non-native invasive species, such as algaroba, cashew tree residues, coconut husk and other agricultural residues. This fuel switching project will help reduce greenhouse gas (GHG) emissions by reducing unsustainable harvesting of the native vegetation which previously fired the kilns.

Biodiversity protection
The Caatinga biome, source of the factory’s fuel prior to the implementation of the project, is semi-arid shrub land, with small thorny trees and cacti, thorny brush and arid-adapted grasses making up the ground layer. The Caatinga is one of the most threatened ecosystems, exclusive to Brazil, and is highly susceptible to desertification and erosion. There are a number of threatened species in the region including the three-banded armadillo, lesser anteater, puma and Araripe manakin.

Job creation
Four additional workers were employed permanently after the fuel switch was completed to handle the biomass. A number of temporary jobs were also created.

Economic growth
The project is strengthening business capacity of the factory and the wider ceramics sector. The factory is raising its standards and efficiency to become more competitive and access new markets.

The factory is now part of the National Ceramics Factories Association in partnership with Brazilian Service, which supports micro and small enterprises. Association membership helps to share knowledge and overcome production challenges, such as infrastructure and logistics.

The factory is also working to promote best practice in quality control, improved dynamic processes, better technology and computerisation.

Prior to the implementation of the project, the factory consumed wood from unmanaged forestry.
development indicators, which are continuously assessed with annual monitoring and verification.

Beyond the above, the factory has contributed a number of additional benefits for employees and surrounding communities:

- Monitoring the composition of factory emissions to assess harmful particles that might affect the community. The factory has reported on results since September 2010
- Supporting a range of charities, financially and in-kind. Organisations supported include a rehabilitation centre, church and youth centre. The factory has also provided tiles and assisted with building construction for a local children's cancer institute
- Raising environmental awareness through publicising the benefits of the project in the local media
- Increasing employee benefits through health and life insurance, and provision of lunch

The region
The State of Pernambuco is located in Northeastern Brazil and has a population of about nine million people, almost half of which live in the area of the state capital, Recife. The state has a medium Human Development Index (19th out of 27 Brazilian federative units), a composite statistic of education, income and longevity indices, calculated in order to measure social and economic development within countries.

The technology
The factory uses round kilns which are commonly used in the ceramics industry in Brazil. As part of the fuel switch project, some technology improvements were also initiated, leading to improved combustion efficiency and a significant reduction in the production of ash. This reduces health risks for employees feeding the kilns. Waste ashes are incorporated into the clay used in the ceramic products.

Location
The factory is located in the municipality of Caruaru, state of Pernambuco, Brazil.