

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

The project activity consists of switching from fossil fuel oil to renewable biomass at Rima Industrial's plant located in Bocaiúva, Minas Gerais, Brazil. This plant produces metallic magnesium and alloys, both as lingots and powder, and auto parts, the main consumers of which are the steel, aluminium and automobile sectors. The first step of the process is calcining dolomite ($\text{CaCO}_3 + \text{MgCO}_3$) in order to transform it into magnesium oxide (MgO) and calcium oxide (CaO) with a Loss on Ignition lower than 0.30%.

Since early 2004, Rima has been studying CDM project opportunities, participating in seminars and congresses, both in Brazil and abroad and discussing possibilities with project developers. In February 2005, the board of directors approved this fuel switch project, where the key driver was CER revenues. Operations started on 1 April 2006.

Besides the Bocaiúva plant, Rima operates two plants in the region that produce mainly ferroalloys and metallic silicon. All three plants have reduction furnaces that use charcoal as reducing agent. More than three quarters of the charcoal consumed in these plants is produced in Rima's sustainably managed forests.

Rima has five eucalyptus and pinus plantations within 250 km covering 40,000 ha where charcoal is produced in pyrolysis ovens. These ovens were designed by Rima's technical staff and are continuously improved in order to enhance efficiency. At each industrial plant, charcoal passes through sieves in order to separate the fines from material with the proper size for the production of metallic silicon and ferro- alloys.

The fuel switch project will use the fines, left over from sieving, to displace fuel oil used in the calcination kiln. Before this project activity, fines were partially sold to cement, ceramic and brick companies in the region.

The project is located in the industrial district of Bocaiúva, in the northern part of the State of Minas Gerais, a region dedicated to metallurgy, mining, agriculture and forestry.

Rima Industrial S/A employs more than 3.000 workers; 500 are involved with forest management and charcoal production and manipulation. The plant at Bocaiúva has 35 workers allocated to the dolomite kiln and raw material storage. The company is responsible for the training, maintenance and service on the kiln technology, which improves the local manpower skills and provides an opening for employment or recruitment of skilled staff.

All changes in the burner system allowing for charcoal fines to be used as a fuel were carried out by Rima's technical staff, involving a team of 20, consisting of engineers, project developers and workers and took more than 200 work-days for completion of the first phase. The second phase is due November 2006 and comprises a drying charcoal fines using hot air from the kiln, modifications in mills and sieves and kiln instrumentation and control.

The project activity estimate to reduce 28,849 tCO₂/year during the crediting period.

The project activity helps Brazil accomplishing its goals of promoting sustainable development. Specifically, the project is in line with host-country specific CDM requirements because it:

- Contributes to local environmental sustainability since it will decrease the use of fuel oil;
- Creates social benefits related to improvement of labour conditions;
- Increases local job opportunities as the project requires additional manpower;
- Increases work opportunities in the region by stimulating sustainable management of existing forests;
- Contributes to technology and capacity development as new kiln burners and process control specifications must be put in place for the new fuel.