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“CLEANER PRODUCTION INITIATIVES AND CHALLENGES FOR A SUSTAINABLE WORLD”

Reduction in Generation of Scrap Metal by Internal Reuse and External Recycling at Serralheria Montanheza

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Abstract

The Serralheria Montanheza (Montanheza Metalworks) is a microenterprise with 02 owners and 4 employees. The company produces thermo-acoustic roofing, both glass and polycarbonate, ladders, handrails of stainless steel and steel, fences, gates and doors.

During the year 2010, data was collected from Serralheria Montanheza which resulted in this pioneering and innovative proposal in this sector. The data demonstrated the need for the implantation of the UNEP Cleaner Production Methodology (CP).

The objective of this Case Study is to set up a segregated scrap metal collection program, in which the company would separate the different kinds of scrap metals generated during its production process for external recycling. The scrap metals would be delivered to “Bolsa de Resíduos da FIEMG” (The Residue Exchange of FIEMG).

The program would generate new business opportunities, that is, strengthen the local metal recycling market, with the help of the private sector.

There are different kinds of scrap metals in Serralheria Montanheza waste (stainless steel and steel) around 900 kg/year. The segregation process should be as efficient as possible to obtain maximum economic benefit.

The average purchase prices of the scrap metal in the Belo Horizonte market, in November 2010, were: stainless steel series 400 at R\$500,00/ton., stainless steel series 300 at R\$2500,00/ton., and steel at R\$150,00/ton.

By segregating metallic residues it will be possible to quantify the volume and cost to Serralheria Montanheza. As a result, it will be possible to identify the best opportunities for business in the exchange market.

Currently, Serralheria Montanheza gets no revenue from scrap metals sales, as there is no segregation program and these metals have been donated.

By using the scrap metal segregation tool, the company might have earned, for example, R\$148,92/year at November 2010 price quotes.

This revenue would represent around 35% of one monthly energy bill of Serralheria Montanheza.

An indicator would be used to track and evaluate scrap metal generation. This indicator will be called The Scrap Metal Generation Indicator and will measure by kilogram of scrap metal/kilogram of stainless steel and steel.

Keywords: *Cleaner Production, scrap metal, indicator, recycling and business.*

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