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Workshop 11 “Production Propre”

Summary of the Cleaner Production Project “Aceros Arequipa S.A. Pisco/Perú”

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Aceros Arequipa SA is the second largest private steel company in Peru, owning two operation plants in Pisco and Arequipa. The Steel Mill is located in Pisco, 240 km south of Lima. The production is around 350,000 tonnes per year. Part of the production is exported to Chile and Bolivia. The main outputs are construction bars and wire. All the processes are modern and automated starting from the scrap yard, electric steel making, secondary ladle metallurgy, hot rolling and manufacturing of wire and nails.

The Cleaner Production Centre (CPC) in Perú (www.cet.org.pe) is supporting enterprises in Perú towards Eco Efficiency improvement. The centre is mutually supported by the Swiss State Secretariat for Economic Affairs (seco) and the US Agency for International Development (USAID); the reference centre is the Swiss Federal Institute for Material Testing and Research (EMPA) St. Gallen/Switzerland. The CPC conducted in February 2003 a cleaner production assessment, focusing mainly on energy efficiency and the CDM; the assessment was assisted by a expert from EMPA and an independent Swiss expert.

Currently Aceros Arequipa consumes around 3.5 MM of gallons of different liquid fuels and 80,000 tons of coal per year. It handles about 500,000 tons of materials per year and more than 15 MM cubic meters of water per year.

Currently the very hot flue gases flow without any treatment to the environment, i.e. the region gets seriously polluted by the steel mill. Moreover the mill consumes a remarkable amount of water, which is pumped up from underground springs.

The energy efficiency analysis concentrated on various processes and came out with the main proposal of producing electricity by using waste heat with heat exchangers. Thus the flue gas is cooled down to a level that makes it possible to install filters to reduce dust load.

The benefits to the mill are:

- reduced costs for electricity purchase
- reduced emissions of (toxic) dust to the environment, thus preventing future environmental costs
- recycling of metal formerly lost in the dust, thus reduction of raw material use
- reduction of electricity production in the country in partially fossil fired power plants. So a participation in the market of CO₂ reductions gets possible.

The pay back time of the investment of about 1.6 million CHF under Peruvian conditions is about 8 years. There is a possibility that the project is supported by seco's green credit line, which would reduce the pay back period remarkably and thus increase the probability of the project realization.