

Fuel Oil and Electricity Consumption in a- Kenyan Milk Powder Factory

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Abstract

Fuel oil and electrical energy consumption in a milk processing plant was measured daily for a whole year. The plant has a processing capacity of 150 tons of milk per day. The plant primarily produced milk powder and butter. However, no milk powder was produced in the dry season since the milk was pasteurized and taken elsewhere for packaging. Fuel oil consumption averaged 595 MJ per ton milk intake when there was no milk powder production and 2230 MJ per ton milk intake during the milk powder production season. Electrical energy consumption averaged 170 MJ per ton milk intake when there was no milk powder production and 244 MJ per ton milk intake during milk drying season. 82 % of the milk intake was converted to powder during the milk drying season. There is considerable potential for saving energy in the factory, Suggested targets would result in savings of 38% and 41 % for fuel oil and electricity, respectively, when there is no milk powder production and 28% and 39% , respectively, during the milk drying season.