RECP Best Practice Catalogue

Replacing the chocolate wafer machine

Developed within the framework of MED TEST II

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

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Best practice - Replacing the chocolate wafer machine

SECTOR:	**Food & Beverage**
SUBSECTOR:	Bakery and farinaceous products
PRODUCTS	Variety of Biscuit and other confectionery products like wafer, toffee or cookies
CATEGORY	Technology upgrade/Eco-innovation
APPLICABILITY	Process

COMPANY NAME	---
COMPANY SIZE	250 Full time employees and turnover of 10,7 EUR/y

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Description of the problem (Base scenario):	Chocolate coating and injection machine (wafer machine) is an outdated technology with several operation and production problems. Consequent losses in chocolate and wafer were estimated to be 15% from the total production quantity processed in the old wafer machine. This loss was created mainly by breakage of the semi product and high percentage of out of specification products.
Description of the solution	The improvement measure is in replacing the old wafer machine by a new one which will be more efficient providing better quality goods at the same time.

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Economic Benefits	Loss calculated in form of NPO for out of specification product for wafer machine was 15% from the total production of wafer machine. Supplier of a new wafer machine guarantees its losses less than 1%. Therefore reduction of losses of out of specification wafers should be 14% which represents avoided loss of 235 t/y leading to annual savings of EUR 170,000. The new machines performs 30% better on energy consumption. Based on the LPG consumption this represents saving of 80,000 EUR / year **Total savings will be therefore 250,000 EUR / year** Installing new machine will lead to increase of productivity of this process by 14%
Environmental Benefits	Reduction of annual energy use in form of LPG by 127,400 l or 884,000 kwh and reduction of CO_2 emissions by 661 tons.
Health and safety impact	N.A

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Capital investments & financial indicators	• 750,000 EUR Capital investment • 3 Years Pay Back period
Supplier	
Other aspects	Installing new wafer machine will lead to additional positive impacts : • Improve product quality • Reduce process breakdown • Decrease material and process losses Part of out of specification wafers can be reused on site, however, on lower price which is considered in calculating savings.
Implementation	Company top management has placed this project as a top priority for implementation. Investment is in the phase of looking for a source of financing.