RECP Best Practice Catalogue

Boiler CO_2 recovery and treatment for use in beverages

Developed within the framework of MED TEST II

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

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Best Practice - Boiler CO_2 recovery and treatment for use in beverages

SECTOR:	**Food & Beverage**
SUBSECTOR:	Manufacture of beverages
PRODUCTS	Still drinks, carbonated drinks and fruity drinks in PET packaging and cans
CATEGORY	Process control or modification
APPLICABILITY	Process

COMPANY SIZE	330

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Description of the problem (Base scenario):	Currently, the company consumes around 1,450 tons of CO_2 per year for the production of soft drinks. CO_2 is sourced from local suppliers. At the same time, the company generates more than 2,000 tons of CO_2 per year at its boilers, which is emitted to the atmosphere, thereby contributing to the increase in the greenhouse effect.
Description of the Solution	One option for improvement is the recovery and treatment of CO_2 emitted by the company's boilers for use in the production of beverages. A pre-sized CO_2 recovery unit to produce 285 kg/hour of CO_2 is sufficient to recover the CO_2 emitted by the boilers and cover the company's CO_2 needs.

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Economic Benefits	Annual savings of 1,450 tons of CO_2 which corresponds to a gross annual financial savings of 273,585 € Operating costs of a CO_2 unit of 285 kg/hour estimated at 89,196 €/year Net annual savings = gross savings - operating costs = 184,389 €
Environmental Benefits	Reduction of greenhouse gas emissions from boilers by more than 95% or more than 1,900 tons of CO_2 per year.
Health and safety impact	Not determined

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Capital investments & financial indicators	Cost: 524,684 € Return on investment: 2.8 years
Suppliers	Imported
Other aspects	Reduced reliance on local CO_2 suppliers. Reduction in production costs
Implementation	