

# RECP Best Practice Catalogue

*Maintain steam boiler*  
*Developed within the framework*  
*of MED TEST II*



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



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# Best practice - Maintain Steam Boiler

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SECTOR:	<b>Food &amp; Beverage</b>
SUBSECTOR:	Bakery and farinaceous products
PRODUCTS	Variety of Biscuit and other confectionary products including wafer, toffee or cookies
CATEGORY	Process Control or modification
APPLICABILITY	Utilities

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COMPANY NAME	
COMPANY SIZE	250 Full time employees and Turnover of 12 million USD/an = 10,736,533 Euro/an

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Description of the problem  
(Base scenario):

The capacity of steam boiler is 2,000 kg/h of steam at about 6 bar, 158° C. The boiler is in a very poor condition resulting in a waste of LPG, water and chemicals.

**Observations:**

- The pipe insulation is missing or in a very poor condition.
- No condensate return.
- No control of total dissolved solids (TDS) – Boiler blow down is done manually once a day – no knowledge about how much is needed.
- No combustion control.
- Poor insulation of the boiler.
- Leaks of steam and feed water.

Description of the solution

Better maintenance of the old steam boiler and increasing its efficiency by:

- Insulation of the pipe
- Recovery of the condensate
- Insulation of the boiler
- Closing the Leaks of steam and feed water

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**Economic Benefits**      Operational Saving: Reduction of LPG consumption by by 6,000 l/y (60% savings on boiler gas consumption)

**TOTAL Saving** : approximately **3,750 EUR/y**

<b>Environmental Benefits</b>	Reducing CO <sub>2</sub> emission by 31.2 ton/y Reducing gas consumption by 6,000 l/y Reduction of consumption of water and chemicals
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<b>Health and safety impact</b>	N.A
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<b>Capital investments &amp; financial indicators</b>	3,000 EUR Capital investment 0,8 year Pay Back period
<b>Suppliers</b>	Local Supplier
<b>Other aspects</b>	Increased energy capacity and amount of steam produced by the boiler
<b>Implementation</b>	Measure was implemented and consumption of LPG was reduced by 6,000 l/an after implementation.