

MED TEST III Lebanon

Transfer of Environmentally Sound Technologies

Chemical sector

Joseph B. Amatoury s.a.r.l.

Company overview

Number of employees:

55 Full-time employees and 12 part-time employees

Key products:

Soap and detergents under two brands: 114 and IBIZA.

Main markets: Local market

Standards & certifications before MED TEST III:

ISO 9001:2015

Joseph B. Amatoury s.a.r.l. is named after its founder, who established it as a family-owned business in 1928. The company produces different types of personal care products and household care products, such as body shampoos, liquid soaps and detergents under two brand names: 114 and IBIZA. The premium line of personal care products goes under the 114 brand while IBIZA is targeted to value oriented customers with an extensive range of both personal and household products at very affordable prices.

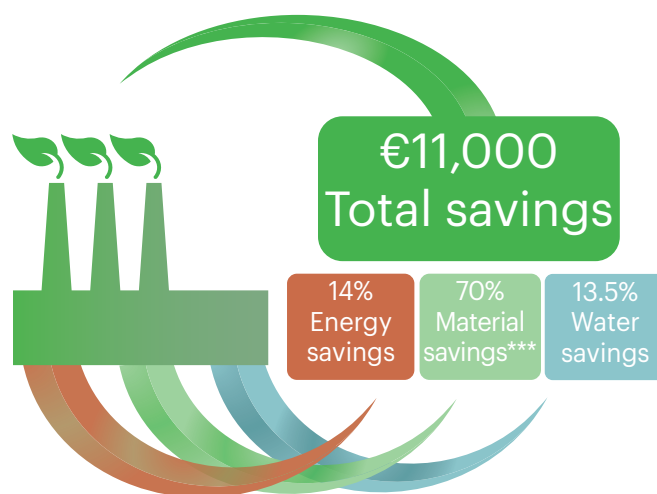
In 2022, Amatoury had an annual production of 2,773,000 liters, adding all its products intended mainly for the local market. The company's mission is to be a provider of wellness through the best personal care products and has an ISO 9001:2015 certification for the formulation, manufacturing and distribution.

Benefits

The MED TEST III project identified total annual savings of €10,260 * associated with measures related to water, material, and reduction of fuel for thermal uses, with an estimated investment of €2,280 *. The average payback period is about three months. Six measures were identified and all of them were approved by the top management; four measures were already implemented while the rest is underway.

The identified measures have the potential to reduce annual thermal energy consumption by 38% and its equivalent use of fuel, water consumption by 13.5%, 70% of ethanol consumption which ended up as part of the wastewater reducing significantly Chemical Oxygen Demand (COD) concentration; and greenhouse gas (GHG) emissions by 12 tons of CO₂-eq per year.

Identified annual savings



*** Ethanol consumption

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At Amatoury, we have always strived to deliver pure, safe products with no animal ingredients and no harsh chemicals, continuously safeguarding and protecting both the consumer and the environment. The MED TEST III project helped us analyze and address one of our major environmental concerns: the discharge of effluents into the sewage network, with a focus on prevention.

Mr. Hanna Faddoul
General Manager, Joseph B. Amatoury s.a.r.l.

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As part of the EU-funded SwitchMed programme, UNIDO demonstrates in the MED TEST III project pathways for industries in the Southern Mediterranean to become more resource efficient and to generate savings for improved competitiveness and environmental performance.

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Saving opportunities**

Actions	Economic key figures			Resource savings & Environmental impacts		
	Investment Euro*	Savings Euro* per year	Payback period years	Water & materials per year	Energy MWh per year	Environmental impact per year
Optimization of batch production	-	6,828	-	291 m ³ water 4,082 liters ethanol	-	Total: 12 tons CO ₂ -eq
Improving the combustion efficiency of generators	187	1,324	0.1	-	18	
Improving the efficiency of the air compressor	410	280	1.5	-	2	
Thermal insulation of the steam network	1,216	1,447	0.8	-	19	
Partial reuse of reject water	466	382	1.2	170 m ³ water	-	
TOTAL	2,280	10,260	0.2	461 m³ water 4,082 liters ethanol	39	

* Using average exchange rate October 2022-October 2023 1 USD=1.072 Euro
**Numbers based on the production value 2022

Optimization of batch production

The washing practices and production schedule were analyzed, to reduce the wastewater generation and its chemical load coming from washing activities after each production batch. It was detected that the water volume used for rinsing mixing tanks between batches for products of similar fragrances could be reduced. Tests conducted at the Amatoury laboratory have shown that up to 70% of products have similar fragrances and compositions that allow sequential production orders with a reduced number of rinsing cycles. As ethanol is also used to rinse the tanks between batches to remove any residual odors, this chemical will be significantly reduced by 4,082 liters per year. These measures will lead to a reduction water use by 291 m³/year while achieving annual savings of €6,827 at no cost, resulting in an immediate payback period.

Improving the combustion efficiency of generators

This measure includes improving the combustion efficiency of the on-site generator by properly tuning the engine in order to reduce excess air. This measure will enable the company to achieve annual savings of €1,324 with a marginal investment, resulting in and two-month payback period.

Improving the efficiency of the air compressor

An increase in the compressor's air intake temperature affects the compression efficiency, therefore decreasing the entering air temperature is beneficial. This measure suggests venting the compressor exhaust air outside the room through a duct as well as improving the regular maintenance by continuously checking and fixing the compressed air line for leaks.

Thermal insulation of the steam network

Undetected energy losses were identified during the assessment. The steam boiler, supports, accessory piping, steam pipes, valves and condensate tanks all require insulation. This measure will enable the company to save €1,447 annually at a small investment cost resulting in a payback period of just 10 months.

Partial reuse of reject water

Reject water from the water treatment plant at Amatoury is currently discharged to drain, amounting to around 780 m³/year. The proposed measure involves reusing approximately 170 m³ of this water for sanitary applications like cleaning floors and flushing toilets. By implementing this measure and adopting the recommended practices for production programming, the company will be better equipped to manage water effluents.

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Our team has been encouraged to go deeper into the possibilities to undertake a preventive approach in our production to reduce any undesired pollution of our effluents. Now we are on the right path and very satisfied with the close cooperation between our staff and the MED TEST III team, which resulted in reducing our environmental impacts and operational expenses.

Mr. Hanna Faddoul
General Manager, Joseph B. Amatoury s.a.r.l.

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