

*As part of the SwitchMed programme, UNIDO supports industries in the Southern Mediterranean through the transfer of environmental sound technologies (MED TEST II) to become more resource efficient and to generate savings for improved competitiveness and environmental performance.*

## Algeria

### NCA Rouiba

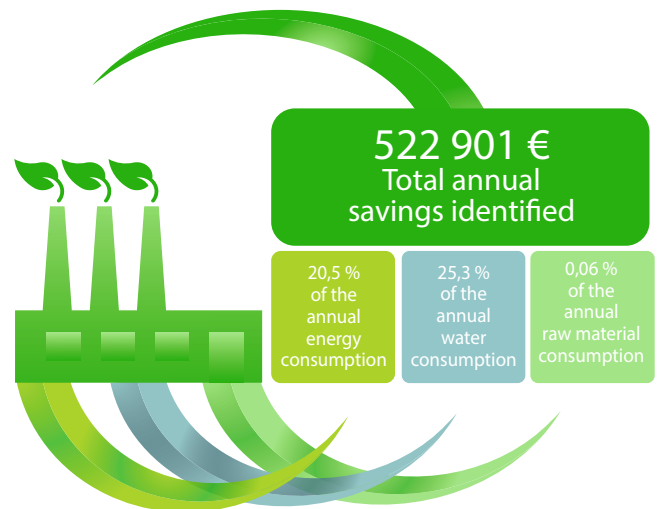
#### Food and beverages sector

#### Context

Number of employees:	528
Key products:	Beverages and Fruit Juices
Main markets:	Local and international
Management standards:	ISO 9001, ISO14001, CSR Approach, ISO 22000 and Buvez Tranquille label

Founded in 1966, Rouiba is the oldest brand of juice and fruit drinks in Algeria. Because of the quality of its products and the credit it enjoys among its consumers, the brand is a leader in this sector in Maghreb and is aiming to develop its position on the African market. Rouiba is committed to the Sustainable Development Goal by 2030 and for this purpose encourages the development of achieving environmental neutrality, and the promotion of responsible and sustainable consumption.

#### Benefits



Graphic: UNIDO

The implementation of the TEST approach has identified significant annual operational savings of 522,901 euros for a total investment of 254,071 euros. The average payback period from the identified measures is 6 months.

The implementation rate of the 12 identified RECP measures is 53%. Annual resource savings on raw material consumption account for 0.06%, 25.3% on water consumption, and 20.5% on energy consumption.

The environmental gains will result in an annual reduction of 8,516 t of CO<sub>2</sub> emissions and an annual reduction of 113,957 m<sup>3</sup> of waste water.

## Saving opportunities<sup>1</sup>

Action	Economic key figures			Resource savings & Environmental impacts per year		
	Investment euro	Savings euro / Yr.	PBP Yr.	Water & Materials	Energy MWh	Pollution reduction
Optimization of the production process	0	31,128	Immediate	50 m <sup>3</sup> Water 15,229 t raw materials	414	Total: 8,516 t CO <sub>2</sub>  113,957 m <sup>3</sup> waste water
Water conservation process	121,428	86,966	1.4	109,746 m <sup>3</sup> Water 93 t raw materials	-	
Disinfection of PET bottles	7,143	-	-	-	-	
Increased capacities of waste valorization	45,000	150,592	0.3	4,096 m <sup>3</sup> Water 1,024 t raw materials	-	
Energy efficiency measures	80,500	254,214	0.3	-	2,919	
<b>TOTAL</b>	<b>€ 254,071</b>	<b>€ 522,901</b>	<b>0.5</b>	<b>16.3 t raw materials 113,957 m<sup>3</sup> water</b>	<b>3,333 MWh</b>	

<sup>1</sup> Numbers based on production value from 2016

### Optimization of the production process

During the preparation changes of some products (small juice cartons), the presence of deposits in the mixing tanks was noted. These deposits are in fact due to excess fruit pulp. The company has dealt with the issue by formulating a new product. In the same way, the homogenization stage was eliminated for some products, based on fruit content allowing the reduction of 50 m<sup>3</sup> of liquid waste annually and 278 t of CO<sub>2</sub> annually.

### Water conservation process

Recycling CIP water (in-place cleaning) on the new Tetra Pack machine will reduce chemical consumption by 25% and reduce liquid waste to 84,420 m<sup>3</sup> annually. The implementation of water meters at the various process plants with a system for monitoring and controlling water consumption with line diagrams, allows the optimization of production water consumption and reduction of waste of around 8% of SNPs.

### Disinfection of PET bottles

This measure has improved the ambient air of the PET bottle disinfection plant by improving ventilation and installing air extraction system. Olfactory discomfort has decreased considerably.

### Increased capacities of waste valorization

With this measure, approx. 70% of finished waste products, about 1.3% of total production, are recovered and reprocessed instead of being wasted. This measure saves 4,096 m<sup>3</sup> of waste water and 1,024 t of raw material on an annual basis and yields an operating profit of 150,592 euros annually.

### Energy efficiency measures

The main measures identified as part of energy efficiency are:

1. Spread of consumption from peak hours to non-peak or peak hours;
  2. Reduction of compressed air loss;
  3. Improving efficiency of the steam circuit;
  4. Maintaining pasteurization temperature at 95°C;
- Total energy gain is 2,919 MWh equivalent to an annual reduction of CO<sub>2</sub> emissions by 8,238 t.

## For more information, contact:



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