

## RECP Experiences at Sarajevska pivara ltd.

The efficient and environmentally sound use of materials, energy and water - coupled with the minimization of waste and emissions - makes good business sense. Using Resource Efficient and Cleaner Production (RECP) this can be achieved in a holistic and systematic manner. RECP applies preventive management strategies to improve natural resources productivity, minimize generation of waste and emissions, and foster safe and responsible production. As experiences of Sarajevska pivara Ltd. Bosnia and Herzegovina show, benefits are obvious in many enterprises, regardless of their line of business, location or size.

### Achievements at a Glance

Current production of beer in the Sarajevo brewery is well below the installed capacity. All auxiliary plants are designed to meet the maximum capacity, and the use of such a system results in an increased power consumption. The brewery has more production units, including the bottling of water and juices. Resource consumption by plants is not measured, thus information on resource consumption and possible rationalization is limited. The pipeline for distribution of alcohol in the cooling system records losses, therefore the reconstruction is needed.

The Resource Efficient and Cleaner Production (RECP) project in brewery and beverage company Sarajevska pivara will achieve annual savings of EUR 112,900, with investment of EUR 103,679 and average payback time of less than 1 year.



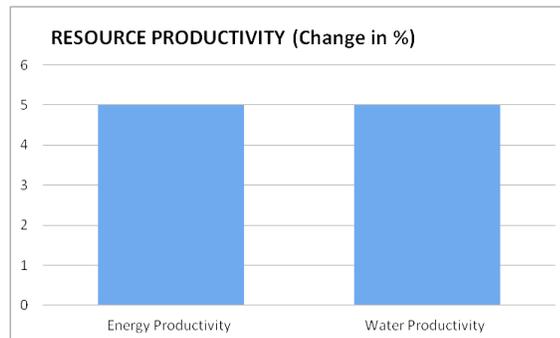
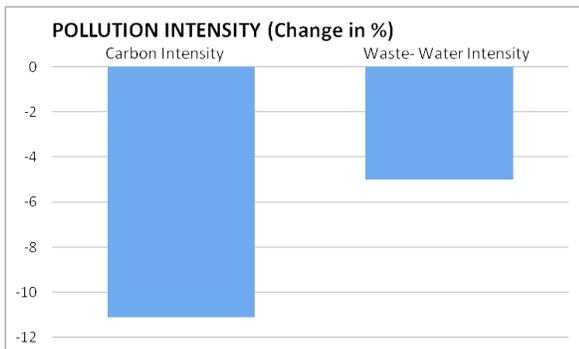
### Overview

Sarajevska pivara was founded in 1864. The main products of the company include beer, soft drinks and water. The company is the largest producer of beer in BiH with an installed capacity of production of beer and soft drinks of 1,000,000 hL per year. The company employs 340 workers. Production takes place in an area of 17,400 m<sup>2</sup> and is in line with both national and international standards and requirements. Sarajevska pivara has implemented standards such as ISO 14001: 2004, ISO 9001: 2008 and Codex Alimentarius.

## Benefits

Absolute Indicator	Change (%)	Relative Indicator	Change (%)
Resource Use		Resource Productivity	
Energy Use	-5	Energy Productivity	5
Water Use	-5	Water Productivity	5
Pollution generated		Pollution Intensity	
Air Emissions (global warming, CO2 eq.)	-27	Carbon Intensity	-27
Waste-Water	-5	Waste-Water Intensity	-5

## RECP profile

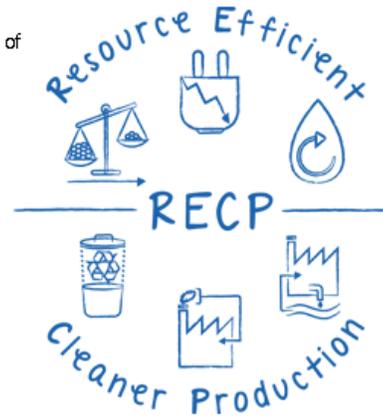


## Resource Efficient and Cleaner Production (RECP)

**Resource Efficient and Cleaner Production (RECP)** entails the continuous application of preventive environmental strategies to processes, products and services to increase efficiency and reduce risks to humans and the environment.

RECP addresses three sustainability dimensions individually and synergistically:

- *Production efficiency*
  - > Through improved productive use of natural resources by enterprises
- *Environmental management*
  - > Through minimization of the impact on nature by enterprises
- *Human development*
  - > Through reduction of risks to people and communities from enterprises and supporting their development



## Success Areas

RECP measures	Benefits				
	Economic			Resources	Waste flow
	Investment EURO	Savings (EURO/year)	Pay back period	Reductions in energy use, water use and/or materials use (per annum)	Reductions in waste water, air emissions and/or waste generation (per annum)
Reducing peak load by production management enabling sequential turn on / Turn off large electricity consumers.	13,071	28,632	6 months	-	-
Installation of meters (compressed air meter, electric power meters, water meter, steam flow meters), data collection and monitoring	52,284	24,005	2 years and 2 months	Electric energy 304,866 kWh Water 30,465 m <sup>3</sup>	CO <sub>2</sub> = 220.4 t, Waste water 30,465 m <sup>3</sup>
Insulation of steam pipeline / valves / connections at the steam distribution line	3,817	8,725	6 months	Electric energy 172,207 kWh Gas 19,525 Sm <sup>3</sup>	CO <sub>2</sub> = 124.5 t
Replacing existing lighting with LED lighting	8,365	2,454	3,5 year	Electric energy 30,000 kWh	CO <sub>2</sub> = 21.7 t
Reconstruction of the pipelines for distribution of alcohol in the cooling system	26,142	49,084	6 months	Electric energy 60,000 kWh	CO <sub>2</sub> =43.4 t



# RECP Experiences



## Approach taken

The Company participated in the National Cleaner Production Program in Bosnia and Herzegovina as one of the ten selected companies. The RECP assessment was performed by the company team and national experts trained in RECP methodology. The RECP assessment was supervised by international experts. The purpose of assessments made at the beginning of the project was to prepare a material balance, an energy balance and balances of water consumption and wastewater. After consultation with expert teams the company management selected the RECP measures to be implemented. They decided to give priority to reconstruction of the pipelines for distribution of alcohol in the cooling system, including insulation on the steam pipeline / valves / connections, and to establish metering program in order to be able to manage resource consumption.

### Testimony Box

#### National Cleaner Production Program in Bosnia and Herzegovina

The program is designed to foster expertise, service delivery capacity and implementation of RECP practices and policies in the country, building on UNIDO's experience in supporting National Cleaner Production Programmes (NCPs) and Centres (NCPCs), in collaboration with UNEP, under the global joint RECP Programme. The program that was officially launched in 2015, contributes to improve the resource efficiency and environmental performances of businesses and other organizations in Bosnia and Herzegovina. With the application of a systematic RECP approach, the project aims at providing:

- Training to national experts on UNIDO's RECP methodology
- Assessment services to companies
- Information dissemination and awareness raising

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