

## Advancing resource efficient and cleaner production in Armenia

### The RECP methodology

**Resource Efficient and Cleaner Production (RECP)** is the integrated and continuous application of preventive environmental strategies to **processes, products, and services** to increase efficiency and reduce risks to humans and the environment. RECP is all about producing with fewer resources while minimizing environmental impacts and increasing overall productivity. For **Small and Medium-Sized Enterprises (SMEs)**, the RECP methodology can effectively lower production costs whilst improving the SMEs' competitive advantage and applying environmentally friendly practices. RECP is also an effective tool to introduce and promote Circular Economy principles among SMEs.

### "VAZGEN ABGARYAN" LLC - PAPER PRODUCTION



#### Company overview

**Location:** Yerevan

**Key products:** toilet paper, paper towels, toilet napkins

**No. of employees:** 10

**Main markets:** Armenia

**Founding year:** 1998

"Vazgen Abgaryan" is a manufacturer of toilet paper based on waste paper and cardboards. Founded in 1998 as a micro-enterprise, five years ago, the company purchased modern pieces of equipment through a procurement process, which is currently operating at full capacity. The company's main products consist of non-bleached toilet paper, kitchen paper towels, and paper napkins. The enterprise itself is lucrative and has no pending loans. In the near future, it plans to expand the supply of its products by introducing new varieties of paper goods. Motivated to improve the quality of its products and address the high annual energy costs, the company participated in the RECP Demonstration Project under EU4Environment (2019-2024). This publication shows the company's experience reported after the monitoring exercise conducted in 2022-2023.

### BENEFITS

1

3 RECP options  
(focused on cost  
reduction)

2

Reduction of  
wastewater  
residuals by 6.11  
tonnes per year

3

Short payback  
period (less than  
two years, on  
average)

4

Reduction of  
12.65 tonnes of  
CO<sub>2</sub>-eq per year

Action implemented by:

# The project's approach

The RECP assessment examined the production site and identified several RECP options, out of which the following three were prioritised by the company. The recommendations include medium and low-cost measures:

**RECP Option 1. Reducing losses of paper pulp and improving the quality of the wastewater effluents:** This measure would reduce losses when converting the paper pulp into liquid waste (sludge) by introducing a smaller mesh on the filter used in the final stage of the wastewater filtration. The smaller mesh would keep the paper pulp away from the final product, simultaneously improving the quality of the wastewater effluents and increasing production efficiency.

**RECP Option 2. Sorting out raw materials to reduce the quantity of caustic soda:** This measure consists of sorting out the paper waste used as raw material, and discarding the residuals and highly-dyed pieces in order to lower the quantity of caustic soda (which is an expensive and hazardous material) used for treating the raw material.

**RECP Option 3. Insulating the inlet water preheating tank and outlet pipe:** This measure consists of a thermal insulation of the inlet water preheating tank to increase the energy efficiency of the boiler and generate steam for the drying unit. In addition, the measure would help reduce the consumption of natural gas.

## SAVING ACHIEVEMENTS

### Main implemented actions

<b>OPTION 1</b>	Reducing paper pulp losses and improving the quality of the wastewater
<b>OPTION 2</b>	Sorting out raw materials to reduce the quantity of caustic soda
<b>OPTION 3</b>	Insulating the inlet water preheating tank and outlet pipe

### Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	100	1,340	1
Option 2:	/	368	/
Option 3:	250	1,322	2-3

### Resource savings

RECP OPTIONS	MATERIALS (TONNES/YR)	ELECTRICITY (KWH/YR)	FUEL (M <sup>3</sup> /YR)
Option 1:	5.1	/	/
Option 2:	1.008	/	/
Option 3:	/	61,680	6,000

### Total pollution reduction

RECP OPTIONS	TOTAL CO <sub>2</sub> -EQ (TONNES/YR)	WASTEWATER (M <sup>3</sup> /YR)
Total:	12.65	6.11

“ We were facing challenges when trying to improve the efficiency of our production and our overall environmental performance, as there was an excessive use of natural gas and an increased generation of wastewater. Thanks to the RECP Demonstration Project, our company learned how to rationally use resources on a daily basis and, as a result, how to increase resource efficiency. As we plan to increase the quality of our products, and we continue optimising the production processes, the RECP project has inspired us to come up with new ideas regarding the future implementation of RECP measures, said the owner, Mr. Vazgen Abgaryan. ”

The introduction of RECP has been part of the EU-funded EU4Environment Action and executed by UNIDO. In this context, **Vazgen Abgaryan** joined the RECP Demonstration Project to be monitored under EU4Environment. Follow-up visits have also been conducted to check on the implementation of the recommended RECP options. EU4Environment helps the EU's Eastern Partnership countries preserve their natural capital and increase people's environmental well-being by supporting environment-related action, demonstrating and unlocking opportunities for greener growth, and setting mechanisms to better manage environmental risks and impacts. For more details, visit: [www.eu4environment.org](http://www.eu4environment.org)

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