MOVING FORWARD TOGETHER

THIS PROJECT IS FUNDED BY THE EUROPEAN UNION

EU4Environment
Green Economy in Eastern Partner Countries

Advancing resource efficient and cleaner production in Ukraine

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.

YAROSLAV PE - TEXTILE PRODUCTION

Company overview

Location: Kyiv
No. of employees: 250
Main markets: Ukraine, EU, USA, Canada
Key products: bed linen, rugs, blankets, goods for children, kitchen textiles, and many others
Founding year: 1995

Yaroslav, PE is a textile manufacturer of a wide range of goods including bed linen, rugs, blankets, mattresses, and kitchen textiles, to name a few. The company's priority is to use high-quality natural raw materials and deliver quality output. It is part of the Yaroslav Group of Companies (Yaroslav PE, Promin Factory LLC, Boguslav Textile Factory OJSC, and Stebliv Cotton Spinning and Weaving Factory OJSC), a national leader on the Ukrainian textile market. Motivated to improve the efficiency of its production processes, and gain knowledge and experience in using an international methodology, 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 2023.

> “Our company joined the project to master the RECP approach for identifying ways to improve efficiency and reduce losses and waste. Thanks to the RECP Demonstration Project, we learned how to monitor and analyse energy, material, and water balance in our production processes. As we plan to further engage the RECP experts to conduct an assessment at the other production sites within the Yaroslav Group of Companies, the RECP Project has inspired us to continue with the implementation of RECP measures, said the director of Yaroslav, PE, Mr. Oleksandr Barsuk.”

BENEFITS

1. 6 RECP options (focused on energy consumption)
2. Short payback period (around a year and a half, on average)
3. Reduction of electricity consumption by 48,491 kWh per year
4. Reduction of up to 40.84 tonnes of CO_2-eq per year

The project's approach

The RECP assessment examined the production site and prioritised six medium and low-cost measures, out of which the following three are described below:

RECP Option 1. Optimising the compressed air system: This measure consists of upgrading the compressor with an automatic control system with a frequency converter, which would change the capacity of the compressor according to consumption needs. It would significantly reduce electricity consumption by 72%.

RECP Option 2. Optimising the heating system: This measure consists of increasing the heat output of the solid fuel boiler by 45%. Its implementation significantly reduced the consumption of the natural gas.

RECP Option 4. Modernising the furnace's design for sintering non-woven fabrics (NWF): This measure consists of reducing the cross-section of the furnace inlet and outlet in order to avoid heat loss. Furthermore, it would help reduce electricity consumption, improve product quality by levelling the temperature field inside the furnace, and improve working conditions by reducing the indoor temperature.

SAVING ACHIEVEMENTS

Main RECP actions

OPTION 1	Optimising the compressed air system
OPTION 2	Optimising the heating system (measure fully implemented)
OPTION 3	Modernising the furnace's thermal insulation for sintering NWF
OPTION 4	Modernising the furnace's design for sintering NWF
OPTION 5	Reusing substandard non-woven fabrics
OPTION 6	Internal insulation of the building's walls (measure partly implemented)

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	5,320	5,613	0.9
Option 2:	125	4,821	0.03
Option 3:	450	843	0.5
Option 4:	375	809	0.5
Option 5:	3,750	4,738	0.8
Option 6:	13,750	2,178	6.3

Resource savings

RECP OPTIONS	ELECTRICITY (KWH/YR)/%	MATERIALS (TONNES/YR)/%	NATURAL GAS (M^3/YR)/%
Option 1:	37,418/33	/	/
Option 2:	/	/	9,778/16
Option 3:	5,617/5	/	/
Option 4:	5,456/4.8	/	/
Option 5:	/	1.895/2.3	/
Option 6:	/	/	7,053/11.4

Total pollution reduction

RECP OPTIONS	TOTAL CO_2-EQ (TONNES/YR)	WASTE (TONNES/YR)
Total:	40.84	1.89

The introduction of RECP has been part of the EU-funded EU4Environment Action and executed by UNIDO. In this context, **Yaroslav, PE** 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**

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