

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.

SPETZTEKHOSNASTKA LTD - METAL AND PLASTIC PRODUCTION



Company overview

Location: Kamianske, Dnipropetrovsk oblast

Exportation quota (%): 30

Founding year: 1989

No. of employees: 615

Key products: metal and plastic products

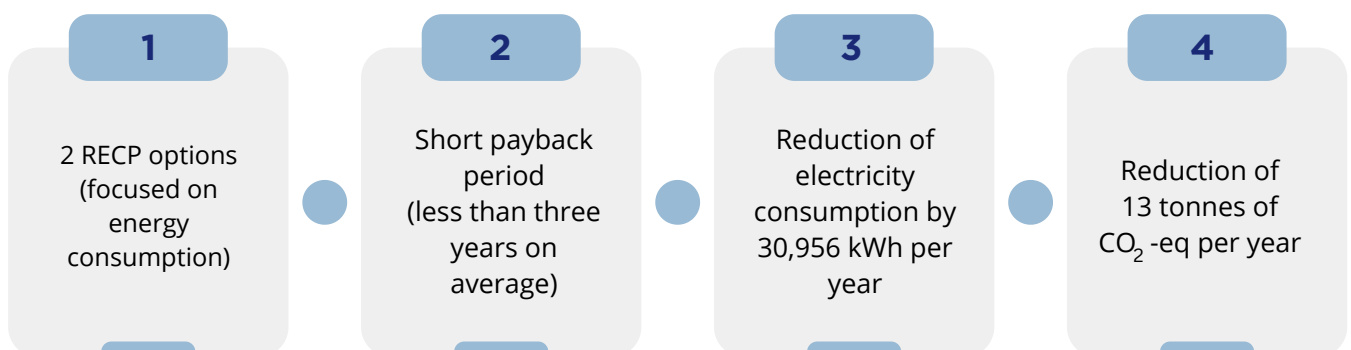
Main markets: Ukraine, EU, USA, Canada, Mexico, China, Israel

Certifications: ISO 9001, FSSC 222000, ISO 14001, IATF 16949, DSTU ISO EN 13485



Spetztekhosnastka, Ltd. is an enterprise specialised in the production of moulds for casting plastic products, spare parts for injection moulding machines (IMM), a diverse range of rigid plastic packaging for food and paint industries, plastic components for the manufacturing of European cars, medical products made out of plastics and metal, and various other metal products. Motivated to continuously develop and improve resource efficiency and competitiveness, both nationally and internationally, the company participated in the RECP Demonstration Project under EU4Environment (2019-2024). This publication shows the company's experience reported after the monitoring exercise completed in 2023.

BENEFITS



Action implemented by:

The project's approach

The RECP assessment examined the production site and identified several RECP options, out of which the following two were prioritised. The suggested RECP recommendations included medium and low-cost measures:

RECP Option 1. Reconstructing the chamber for the pallets phytosanitary treatment: This requires the installation of a heater to transfer the heat from steam and create an artificial air flow to heat the pallets in the chamber. Additionally, the option requires replacing the thermal insulation of the chamber for the phytosanitary treatment of pallets, as the current situation does not allow for the temperature inside the chamber to increase. The measure would increase the chamber's efficiency by 15.8% and reduce the processing time by three times.

RECP Option 2. Installing a water-cooled chiller for the condenser: Installing a water-cooled chiller for the condenser would help reduce the consumption of drinking water used to cool down the dry cleaning machines and recirculating the water supply. Moreover, the heat generated from the condenser could be transferred to the domestic hot water system (DHW). The measure would significantly reduce the water needed for cooling, and decrease electricity consumption when it comes to heating the hot water system. The total energy savings (including the costs of operating the chiller) would be of 9,200 kWh per year.

SAVING ACHIEVEMENTS

Main RECP actions

OPTION 1	Reconstructing the chamber for pallets phytosanitary treatment
OPTION 2	Installing a water-cooled chiller for the condenser

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	5,410	1,935	2.8
Option 2:	8,209	3,120	2.6

Resource savings

RECP OPTIONS	WATER (M ³ /YR)/%	ELECTRICITY (KWH/YR)
Option 1:	/	21,750/0.23
Option 2:	2,880/11.2	9,206/0.09

Total pollution reduction

RECP OPTIONS	TOTAL CO ₂ -EQ (TONNES/YR)	WASTEWATER (M ³ /YR)
Total:	13	2,880

“ Our company joined the RECP Project to find development and resource efficiency opportunities in order to become more competitive on international and domestic markets. The RECP methodology helped us identify the inefficient use of resources more effectively than the previously used methodology. The results of the analysis increased our understanding of material and energy flows in our company's technological processes, which provided an opportunity to adjust plans for the planned modernisation, said the chief engineer of Spetztekhnastka, Ltd., Mr. Yuri Neklesa. ”

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