



Funded by the European Union



Advancing resource efficient and cleaner production in Azerbaijan

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 is an effective means to 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.

"SEMSAN" LLC - METAL PROCESSING (METAL PLATING AND MECHANICAL PROCESSING)

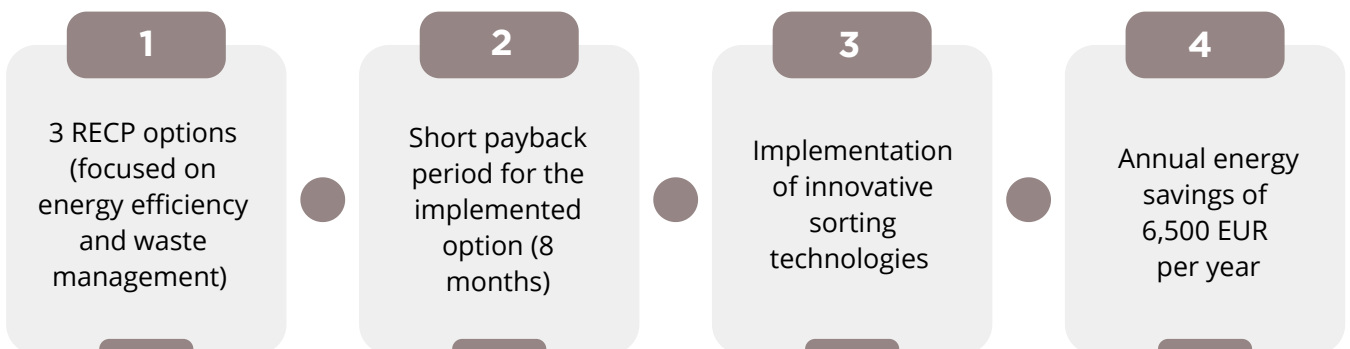


Company Overview

Location: Ganja
Key products: aluminium/ stainless steel/ lead ingots, brass bars, zinc concentrate, plumbing fixtures, aluminium tires, iron/cast iron castings, iron fittings
No. of employees: 120
Main markets: Azerbaijan
Founding year: 1987

"SemSan" LLC specialises in producing metal goods such as aluminium ingots, brass rods, lead ingots, plumbing products, stainless steel ingots, iron and cast iron castings, and various brass profiles. It operates its own collection points for receiving these products, and focuses on recycling scrap metal to reduce natural resource consumption and energy costs, minimise metal acquisitions, reduce harmful emissions, and speed up production of high-quality raw materials. Motivated to address production costs and waste, the company participated in the RECP Clubs project under EU4Environment (2019-2024). This publication details the company's experience reported after the assessment exercise conducted in 2024.

BENEFITS



Action implemented by:



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION



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The project approach

The RECP assessment examined the production site and identified three RECP options, out of which the first one was prioritised and implemented by the company. This represents a low-investment measure with a relatively short payback period:

RECP Option 1: Magnetic separation: This suggestion was crucial for improving the efficiency of sorting ferrous scrap. This, in turn, has enhanced productivity, boosted product quality, and reduced production costs. Innovations like magnetic separation, alongside melting and mechanical separation methods, play a pivotal role in optimising the process of sorting ferrous scrap.

RECP Option 2: Improving the efficiency of the scrap cutting process: The primary issue with this process involves the significant generation of waste. When using gas cutters, there are irreversible losses of around 3-5%. Moreover, the conventional method of cutting scrap leads to a significant generation of dust and gas emissions into the environment. Hence, a suggestion was to apply improved technologies to reduce the amount of waste, which the company is currently considering, yet postponing, as the equipment is rather expensive.

RECP Option 3: Improving the filters for metals and alloys: Another critical phase of the production process is metal melting, which is associated with the emission of harmful substances. In this case, the RECP team proposed investing in modern equipment with appropriate filters or employing supplementary cleaning methods.

SAVING ACHIEVEMENTS

RECP measures

OPTION 1	Magnetic separation
OPTION 2	Improving the efficiency of the scrap cutting process
OPTION 3	Improving the filters for metals and alloys

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	5,000	6,600	0,8

The introduction of RECP has been part of the EU-funded EU4Environment Action and executed by UNIDO. In this context, «Semsan» LLC joined the RECP Clubs training and assistance programme to be monitored under EU4Environment. Follow-up visits have 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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