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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.

AZERALUMINIUM LLC - NON-FERROUS METALLURGY



Company Overview

Location: Ganja

Key products: aluminium ingots, continuous casting coils, cold rolled coils, sheets, stripes

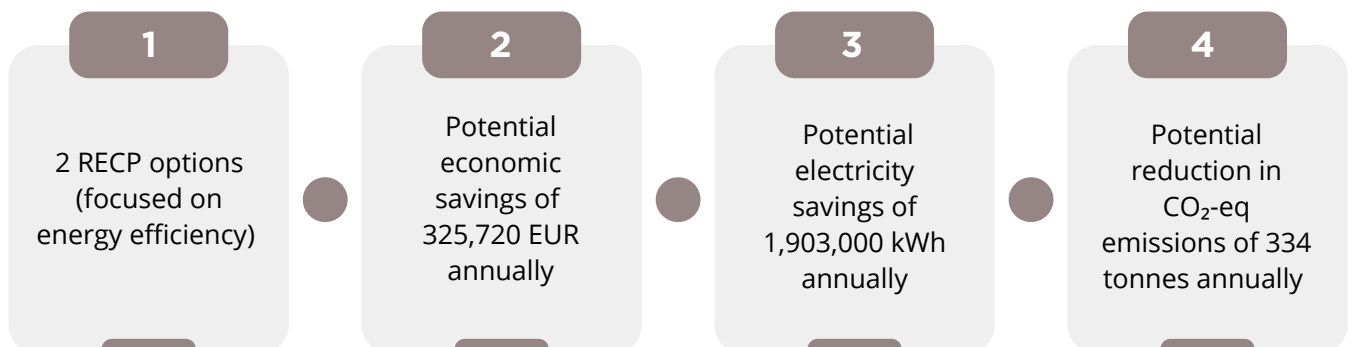
No. of employees: 1112

Main markets: Azerbaijan and abroad

Founding year: 2018

"Azeraluminium" LLC is the leading aluminium producer in the South Caucasus, specialising in the production of primary aluminium and semi-finished products such as casting coils, cold-rolled coils, sheets, strips, painted coils, and window spacers. The company operates a comprehensive production process that includes an anode rodding shop, an electrolysis plant, a continuous casting and rolling plant, and a cold rolling and coating plant. Committed to integrating environmental management and best practices into its strategy, the company has adopted the RECP methodology. Moreover, motivated to address production costs, the company participated in the RECP Demonstration 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 team evaluated the production site and identified several options, with the company prioritising the following two. The assessment also confirmed that the primary aluminium production efficiency met modern international standards, so the focus was placed on improving the downstream production of semi-finished aluminium products:

RECP Option 1. Installing a heat recovery system: During the aluminium melting process, the mixing furnace generates highly heated waste gases. By installing a heat recovery system, this waste heat could be captured and reused within the production process. This would also reduce the need for externally purchased energy, leading to lower operational costs and decreased environmental impact.

RECP Option 2. Recovering aluminium from dross: In the core processing of aluminium, dross (a byproduct containing residual aluminium) is typically sold without extracting the remaining metal. Implementing a recovery process to extract additional aluminium from dross could generate extra profit and enhance resource efficiency by maximising the use of raw materials.

SAVING ACHIEVEMENTS

RECP measures

OPTION 1	Installing a heat recovery system
OPTION 2	Recovering aluminium from dross

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Total:	-	325,720	-

Resource savings

RECP OPTIONS	ELECTRICITY (KWH/YEAR)
Total:	1,903,000

Total pollution reduction

RECP OPTIONS	CO ₂ -EQ (T/YR)
Total:	334

“ We acknowledge that resource efficiency and sustainable production will continue to gain importance worldwide, setting certain requirements for producers in the future. To position ourselves accordingly, we viewed our participation in this project as an opportunity to reassess production from a new perspective (a "European one") by leveraging the expertise of professionals experienced with EU companies. This helped us identify potential areas for improvement, underscoring the benefits of collaboration with similar initiatives, and the need to stay updated with regulatory changes and current resource efficiency trends. Moreover, the RECP experience has highlighted key areas for improvement that can potentially bring long-term benefits, aspects already aligned with our commitment to sustainability and future growth plans, said Mr. Anvar Akbarov, the CEO of Azeraluminium LLC. ”

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