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Advancing resource efficient and cleaner production in Georgia

-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 instrument to lower production costs whilst improving the SMEs' competitive advantage and applying environmentally friendly practices. As well, RECP is considered an effective tool to introduce and promote Circular Economy principles among SMEs.

PRODUCER OF ALUMINIUM

Company overview

Key products: production of aluminium ingots through the melting and processing of aluminium scrap and dross **Main markets:** Turkey, the United Kingdom, and South Korea



This Georgian company was part of the EaP GREEN programme in 2013-2017 and the 2019-2020 RECP monitoring under the EU4Environment Action.

The enterprise produced aluminium ingots by melting and processing aluminium scrap and aluminium dross. Its annual production of aluminium ingots amounted to about 440 tonnes. From this, about 347.6 tonnes of aluminium ingots were produced through the melting of the scrap aluminium, with 85.8 tonnes of ingots being produced through the processing of the dross bought from other companies. The last 6.6 tonnes of aluminium were generated by processing the dross resulting from the melting of the scrap. Motivated to decrease its energy consumption and overall costs, while improving its environmental and technical performance, and seeking opportunities to expand to other markets, the company joined EaP GREEN in 2015. This publication shows the company's experience reported after the monitoring exercise conducted in 2020, five years after the programme ended.

Benefits

- Implementation of one RECP option focused on energy and resource efficiency
- Adequate payback period for the required investment
- Reduction of heavy oil consumption by: 67%
- Energy savings that generated a reduction of 15.2 tonnes of CO₂-eq per year







Action implemented by





Page 1



During the **RECP monitoring**, the production site was examined and one RECP option with a normal payback period (between 5 and 6 years) was taken forward:

Technology upgrade to replace the existing melting furnace with one based on electric induction. The implemented measure helped the company improve its energy efficiency and decrease energy consumption (per tonne of product) as the existing scrap-melting furnace was replaced with an induction-based one. In addition, the measure helped save a significant amount of materials (such as heavy oil) and reduced the corresponding amount of emissions.

Saving achievements

RECP MEASURES

RECP option: Replacement of the existing melting furnace with one based on electric induction



Investment Savi (Euro) (Euro/1 RECP option: 4,000 690

Saving (Euro/year) 690 PBP

(years)

5.8



RESOURCE SAVINGS

Fuel (heavy oil) (*m³/ year*) RECP option: 18,660 Energy (*kWh/year*) 145,800



Company insight

After implementing the suggested RECP measure, the company gained confidence in its plans to increase its production capacity. Other similar plans targeted the improvement of the overall production, promoting staff awareness on key areas of interest, and a better management of energy and resource use, as well as the reduction of waste.

The main reason for which the company decided to join the RECP Demonstration Project was to curb its excessive energy consumption and improve management operations. Before the Project, the most important areas of improvement were in terms of energy efficiency and waste management. As a main takeaway from the participation in the RECP Project, the company learned more about the importance of concrete energy efficiency and resource efficiency practices in daily production.

The introduction of RECP has been part of the EU-funded programmes: **EaP GREEN** (2013-2017) and **EU4Environment Action** (2019-2022) executed by UNIDO. In this context, the company joined the RECP training and assistance programme under EaP GREEN, and was monitored under EU4Environment. Follow-up visits have also been conducted under EU4Environment, to check on the implemented RECP options after the EaP GREEN Programme ended. 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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TOTAL POLLUTION REDUCTION

CO₂ -eq (*t/year*) RECP option: 51.5



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