



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.

"TITANI" LTD - PLASTIC BAGS PRODUCTION



Company overview

Location: Kobuleti, Adjara region

Key products: plastic bags

No. of employees: 12

Main markets: Georgia

Founding year: 2015

"Titani" is an all year round small enterprise that produces bags using plastic granules. Currently, production is concentrated in a warehouse-type space where a simple production line is installed. The output capacity is 10 kg of granules per hour, with the annual production capacity being around 120 tonnes. The granules are melted at 150-200 degrees Celsius, for which two electric heaters are used. As an energy source, the company relies only on electricity. Titani distributes its plastic bags throughout Western Georgia (mainly Kutaisi, Zugdidi, and Batumi) as some of the main consumers are bread producers from those regions. Motivated to improve energy efficiency and decrease annual energy costs, the company participated in the RECP Demonstration Project under EU4Environment (2019-2024). This publication shows the company's experience reported after the monitoring exercise.

BENEFITS FROM IMPLEMENTING RECP OPTIONS

1

Implementation
of 2 RECP
options
(focused on
energy
efficiency)

2

Reduction of 125
tonnes of
CO₂-eq per year

3

Reduction of
energy
consumption per
tonne of product

4

Decrease of
annual energy
costs

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 prioritized. The suggested RECP recommendations included medium and low-cost measures:

RECP Option 1. Replacement of the existing electric motors with new, modern, and energy-efficient ones: The measure consisted of installing new, energy-efficient electric motors to improve energy efficiency and decrease overall consumption. The measure will result in energy savings of around 10% compared to the current energy consumption.

RECP Option 2. The partial substitution of the electric heaters: This measure proposes the substitution of the existing electric preheating system of granules with a natural gas system. This will help the preheating system to heat the granules before they enter the final melting chamber (with electrically adjusted concrete temperature) in a way that will ensure minimal energy costs and a significant decrease in the overall energy cost for thermal processes.

SAVING ACHIEVEMENTS

RECP measures

OPTION 1

Replacement of the existing electric motors with new, modern, and energy-efficient ones

OPTION 2

Partial substitution of the electric heaters with natural gas system

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	10,000	80	2.8
Option 2:	2,580	3,440	0.8

Resource savings

RECP OPTIONS	ELECTRICITY (KWH/YR)
Option 1:	1,200
Option 2:	/

Total pollution reduction

RECP OPTIONS	TOTAL CO ₂ -EQ (TONNES/YR)
Total:	125

“The company was struggling with energy inefficiency, excessive electricity consumption, and high annual energy bills. Thanks to the RECP Demonstration Project, the company learned to prioritize systematic approaches to update its technology and invest in awareness raising among employees. The latter is particularly important in order to maintain the good quality of our products at the lowest possible energy costs. As we plan to revamp the production line, the RECP project has inspired us to tackle new approaches and continue with the implementation of the RECP methodology in the near future, said the company director, Mr Lasha Kalandadze.”

The introduction of RECP has been part of the EU-funded EU4Environment Action and executed by UNIDO. In this context, **Titani** joined the RECP training and assistance programme 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

© – 2023 – UNIDO. All rights reserved. Licensed to the European Union under conditions.

This publication has been produced with the assistance of the European Union. Its contents are the sole responsibility of UNIDO and do not necessarily reflect the views of the European Union.



United Nations Industrial Development Organization
Ms. Tatiana Chernyavskaya
EU4Environment Project Manager
Tel: +43 1 26 0 26 5520
E-mail: t.chernyavskaya@unido.org



Energy Efficiency Centre Georgia
0160, 19 D.Gamrekeli Str. VI floor, office 611, Tbilisi, Georgia
Tel: +99 53 2224 25 42
E-mail: eecegeo@eecegeo.org
Web: www.recpg.ge