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EU4Environment
Green Economy in Eastern Partner Countries

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 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.

"GIAM GROUP" LLC - PRODUCER OF TANGERINE JUICE

Company overview
Location: Kobuleti
Key products: tangerine juice concentrate
No. of employees: 70
Main markets: Italy, Japan, Israel, Switzerland
Founding year: 2011
Certifications: ISO 9001, ISO 22001

The Georgian Industrial Asset Management Group or better known as "**GIAM Group**" was established in 2011. It produces concentrated fruit juices from citruses (mainly mandarins and tangerines). The enterprise consists of a factory, warehouses, and land, with the former being operational for only 3-4 months (November-February). Its maximum processing capacity is about 120 tonnes of fruits per hour (annual production capacity is about 800-1,000 tonnes of concentrate), mainly distributed to the external market. The proximity to the seaport, railway stations, and transit roads contributes to the timely and effective delivery of GIAM's products. Motivated to improve energy efficiency and decrease losses, 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. Short payback period (less than one year, on average)
3. Reduction of energy consumption per tonne of product
4. Annual energy savings and the reduction of 85 tonnes of CO_2-eq per year

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. **Thermal insulation of the condensate tank and pipes:** The measure mainly consists of a 10 cm mineral wool insulation for the condensate tank and piping system, where excessive thermal losses were occurring. The measure helped decrease the consumption of natural gas and the corresponding amount of CO_2-eq emissions.

RECP Option 2. **Replacement of the steam pump:** This measure consisted of the replacement of the old and broken steam pump, in which the pressure had to be monitored and adjusted manually. Now, the new, hot water steam pump automatically regulates steam pressure, based on demand. This measure also helps to decrease the annual consumption of natural gas, ensures the quality of the operation, minimizes risks related to unstable steam pressure, and helps reduce the generation of CO_2-eq emissions.

SAVING ACHIEVEMENTS

RECP measures

OPTION 1	Thermal insulation of condensate tank and pipes
OPTION 2	Replacement of the steam pump

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	1,429	7,740	0.2
Option 2:	1,445	5,464	0.3

Resource savings

RECP OPTIONS	NG (KWH/YR)
Option 1:	174,600
Option 2:	244,440

Total pollution reduction

RECP OPTIONS	TOTAL CO_2-EQ (TONNES/YR)
Total:	84.6

> “The company was facing excessive natural gas consumption, thermal losses, and high annual energy costs. Thanks to the RECP Demonstration Project, the company learned to improve its technology and its production processes. As the company already implemented the two suggested RECP measures with great success, and is now witnessing clear improvements when it comes to producing juice concentrate, the top management is now more motivated to invest in technological upgrades in the near future, said the company manager, Mr. Mirian Memarne.”

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

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