



## 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.

### "GEO-ORGANIC" LTD - DRIED FRUIT PRODUCTION



#### Company overview

**Location:** Sagarejo

**Key products:** dried fruits

**No. of employees:** 100

**Main markets:** Georgia

**Founding year:** 2018

**Certifications:** ISO 9001, FSS 22000



"Geo-Organic" was the first domestic company in Georgia to start producing dried fruits from a wide variety of fruits. The company had set itself a production target of 120 tonnes of dried fruits per year. However, the actual production volume achieved in 2020 was of only 22 tonnes. At full capacity, it employs up to 300 people. Currently, the production is located in a 36,785 m<sup>2</sup> area that includes the factory building, three dryers (consuming both natural gas and electricity) and other equipment, as well as eight greenhouse-type solar fruit dryers in an open area. The solar dryers are not operational at the moment due to the lack of technical design. 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 half a year, on average)

3

Reduction of energy consumption per tonne of product

4

Reduction of 133 tonnes of CO<sub>2</sub>-eq per year

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. Installation of a heat exchanger in the chamber dryers:** This consists of the installation of a heat exchanger (heat recovery) system on the exhaust of each chamber dryer. The heat recovery system will absorb the exhaust air heat and will transmit it to the chamber inlet fresh air, which will preheat the cold fresh air before entering the chamber, resulting also in an improved (more efficient) burning process. The measure will also decrease the consumption of natural gas by reducing heat losses through the exhaust and inlet air pipes of the chambers; as well, it will also reduce the corresponding amount of CO<sub>2</sub>-eq emissions.

**RECP Option 2. Thermal insulation of the condensate collector:** To improve energy efficiency and decrease thermal losses within the blanching machine, the insulation of the condensate collector with a 5 cm wide mineral wool, alongside with adjusting the mechanism of the condensate leveller (to transfer condensed water back to the heating system as quickly as possible) will help decrease thermal losses and save the corresponding amount of natural gas.

## SAVING ACHIEVEMENTS

### RECP measures

#### OPTION 1

Installation of heat exchanger in the chamber dryers

#### OPTION 2

Thermal insulation of the condensate collector

### Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	10,000	22,500	0.4
Option 2:	200	410	0.5

### Resource savings

RECP OPTIONS	NG (KWH/YR)	ELECTRICITY (KWH/YR)
Option 1:	582,000	75,000
Option 2:	29,400	/

### Total pollution reduction

RECP OPTIONS	TOTAL CO <sub>2</sub> -EQ(T/YR)
Total:	132.5

“ The company was facing problems with the energy efficiency, as well as excessive natural gas and electricity consumption. After joining the UNIDO RECP Demonstration Project, we learned about the importance of upgrading our technology and investing in awareness raising among staff. After receiving the RECP action plan and recommended resource efficiency measures, we are now inspired to approach new ideas to improve production, and to implementation RECP measures in the near future, said the company manager, Mrs. Mariam Janelidze. ”

The introduction of RECP has been part of the EU-funded EU4Environment Action and executed by UNIDO. In this context, **Geo-Organic** 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](http://www.eu4environment.org)

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