



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.

"MEGAPLAST" LLC - PRODUCTION OF PLASTIC ITEMS



Company overview

Location: Mtskheta, Mtskheta-Mtianeti region

Key products: plastic items

No employees: 11

Main markets: Georgia

Founding year: 2013



"Megaplast" is a manufacturer of plastic items. Its staff was actively involved in the activities related to the RECP Clubs, including the training course on business environmental profile, energy efficiency, water efficiency and wastewater minimization, materials efficiency and waste minimization, the responsible use of chemicals, hazardous waste, and means to reduce emissions. The course resulted in the development of the RECP Action Plan which included seven RECP options. Due to the pandemic, it was challenging for the enterprise to allocate internal financial resources and find investments or appropriate loans to implement the RECP measures. Motivated to improve resource efficiency and reduce energy consumption, the company participated in the RECP Clubs programme under EU4Environment (2019-2024). This publication shows the company's experience reported after the monitoring exercise.

BENEFITS FROM IMPLEMENTING RECP OPTIONS



The project's approach

The RECP team examined the production site, identified several RECP options, and prioritized the following seven:

RECP Option 1. The installation of a photovoltaic (PV) system: the PV system would have a capacity of 25 kW and significantly reduce CO₂-eq emissions.

RECP Option 2. The thermal insulation of the building's roof and walls: replacing single-glazed windows with double-glazed polyvinyl chloride (PVC) ones (reducing the demand and loss of heat, as well as CO₂-eq emissions).

RECP Option 3. The installation of an insulated ventilation system: the 20 kW system would be equipped with a recuperator and inverter motor.

RECP Option 4. The inspection and repair of the pipelines for compressed air (fixing leakages).

RECP Option 5. The installation of a SCADA system for monitoring and analysing energy data: the Supervisory Control and Data Acquisition (SCADA) system is used for controlling, monitoring, and analysing industrial devices and processes. It would help to remotely control the manufacturing process, improve data monitoring and analysis at the company level, as well as assist in planning maintenance works.

RECP Option 6. The reuse of polyethylene (PE) bags for storing products and the sale unused bags: this would contribute to the rational use of bags and decrease the accumulation of waste.

RECP Option 7. Collecting and recycling (for combustion) of fruit waste: this measure entails giving another purpose to biomass waste; however, it needs to be sold to someone who can use it properly.

SAVING ACHIEVEMENTS

RECP measures

OPTION 1	The installation of a photovoltaic system
OPTION 2	The thermal insulation of the building's roof and walls
OPTION 3	The installation of an insulated ventilation system
OPTION 4	The inspection and repair of the pipelines for compressed air
OPTION 5	The installation of a SCADA system for monitoring and analysis
OPTION 6	The reuse of PE bags for storing products and sale of unused bags
OPTION 7	Collecting and recycling (for combustion) of fruit waste

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	22,500	3,293	6.8
Option 2:	12,500	11,112	1.1
Option 3:	11,000	1,807	6.1
Option 4:	1,000	970	1.0
Option 5:	7,000	3,880	1.8
Option 6:	/	2,439	/
Option 7:	64,011	83,548	/

Resource savings

RECP OPTIONS	ELECTRICITY (KWH/YR)	MATERIALS (T/YR)
Option 1:	42,500	/
Option 2:	134,691	/
Option 3:	21,900	/
Option 4:	11,758	/
Option 5:	47,033	/
Option 6:	/	/
Option 7:	/	536,58

Total pollution reduction

RECP OPTIONS	TOTAL CO ₂ -EQ (T/YR)	WASTE (T/YR)
Option 1:	6.0	/
Option 2:	27.2	/
Option 3:	3.1	/
Option 4:	1.6	/
Option 5:	6.6	/
Option 6:	/	0.33
Option 7:	/	536.58

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