



## 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.

### “POLIEDRO” LLC - PRODUCTION OF PP STRECH FILM



#### Company overview

**Location:** Mtskheta, Mtskheta-Mtianeti region

**Key products:** PP stretch film

**No. of employees:** 24

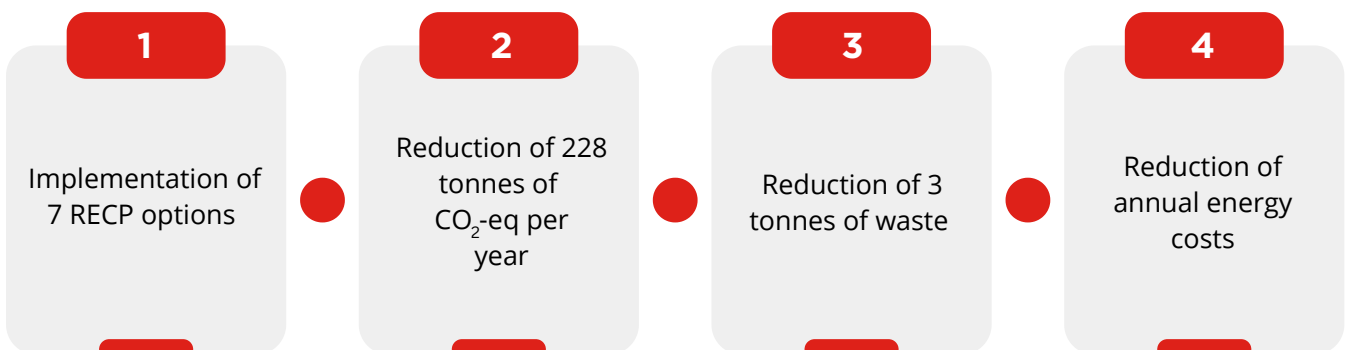
**Main markets:** Georgia

**Founding year:** 2007



“Poliedro” is a manufacturer of polypropylene (PP) stretch film. 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 assessment examined the production site and identified several RECP options, out of which the following seven were prioritized:

**RECP Option 1.** The installation of a photovoltaic (PV) system: the PV system would have a capacity of 40 kW and would help generate electricity while significantly reducing CO<sub>2</sub>-eq emissions.

**RECP Option 2.** The thermal insulation of the building's roof and walls. This includes the replacement of single-glazed windows with double-glazed polyvinyl chloride (PVC) ones (saving on the energy needed for heating).

**RECP Option 3.** 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. The system 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 4.** Replacing the diesel-powered engines of the forklifts with electric ones: this would reduce energy costs and CO<sub>2</sub>-eq emissions.

**RECP Option 5.** Reusing polyethylene (PE) bags for storing products and the sale of unused bags: this measure would contribute to the rational use of bags and decrease the accumulation of waste.

**RECP Option 6 & 7.** Collecting and recycling defective polypropylene (PP) stretch and packaging film (considering the costs of recycling): this would contribute to the rational use of raw materials, as well as minimize the generation of waste by recycling the defective products.

## SAVING ACHIEVEMENTS

### RECP measures

<b>OPTION 1</b>	The installation of a photovoltaic system
<b>OPTION 2</b>	The thermal insulation of the building's roof and walls
<b>OPTION 3</b>	Installation of a SCADA system for monitoring and analysis
<b>OPTION 4</b>	Replacing the diesel-powered engines of the forklifts with electric ones
<b>OPTION 5</b>	Reusing PE bags for storing products and the sale of unused bags
<b>OPTION 6</b>	Collecting and recycling defective PP stretch film
<b>OPTION 7</b>	Collecting and recycling defective PP packaging film

### Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	36,000	5,610	6.4
Option 2:	5,000	5,212	1.0
Option 3:	6,000	1,640	3.7
Option 4:	3,000	490	6.1
Option 5:	/	447	/
Option 6:	227.74	1,860	/
Option 7:	191	2,084	/

### Resource savings

RECP OPTIONS	ELECTRICITY (KWH/YR)	MATERIALS (T/YR)
Option 1:	68,000	/
Option 2:	206,345	/
Option 3:	21,158	/
Option 4:	/	/
Option 5:	/	/
Option 6:	/	1.67
Option 7:	/	1.4

### Total pollution reduction

RECP OPTIONS	TOTAL CO <sub>2</sub> -EQ (T/YR)	WASTE (T/YR)
Option 1:	9.5	/
Option 2:	41.7	/
Option 3:	3	/
Option 4:	174	/
Option 5:	/	0.01
Option 6:	/	1.67
Option 7:	/	1.4

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