



## 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.

## "KAU TIVI" LLC - PRODUCTION OF CHEMICALS



### Company overview

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

**Key products:** bleaching suspension

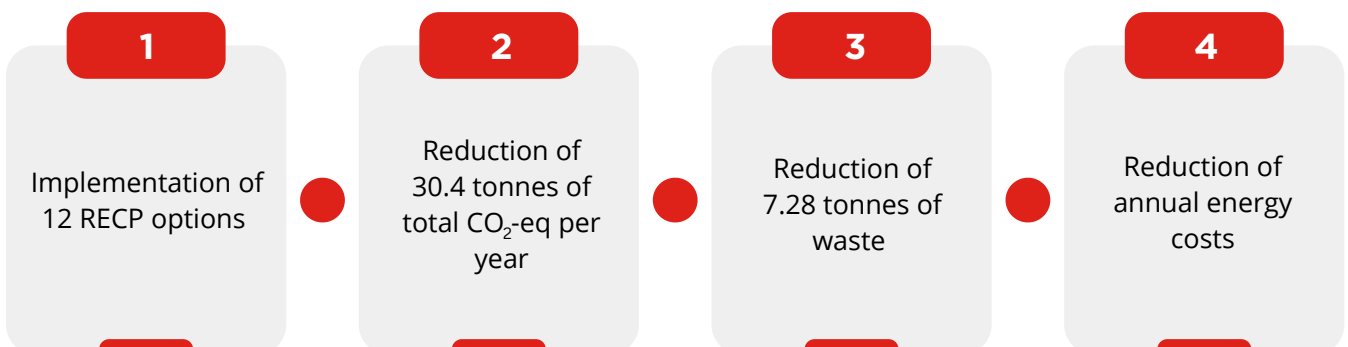
**No. of employees:** 6

**Main markets:** Georgia

**Founding year:** 2007

"Kau Tivi" is a manufacturer of bleaching suspension. 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 twelve 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 twelve were prioritized:

- RECP Option 1.** The thermal insulation of the building's roof and walls: this would include the replacement of single-glazed windows with double-glazed polyvinyl chloride (PVC) ones (reducing the demand and loss of heat, as well as CO<sub>2</sub>eq emissions).
- RECP Option 2.** The installation of a photovoltaic (PV) system: the PV system would have a capacity of 26 kW and help reduce CO<sub>2</sub>eq emissions.
- RECP Option 3.** Improving the extruder's water cooling system: reducing the amount of faulty product and saving energy (including cost of recycling).
- RECP Option 4.** Reusing polyethylene (PE) bags for storing the PVC bottles and the sale of unused bags.
- RECP Option 5.** Recycling defective (polyvinyl chloride) PVC bottles.
- RECP Option 6.** Reusing PVC tanks for storing products and the sale of unused tanks.
- RECP Option 7.** Replacing the old, electric motor of the conveyor in the bottling system.
- RECP Option 8.** Improving the ventilation system of the workshop area.
- RECP Option 9.** Replacing the inefficient incandescent lighting bulbs with light-emitting diode (LED) ones.
- RECP Option 10.** Replacing the old air compressor with a new one.
- RECP Option 11.** Replacing the bottle printing method with relevant stickers.
- RECP Option 12.** The installation of a new production line for bleaching suspension.

## SAVING ACHIEVEMENTS

### RECP measures

<b>OPTION 1</b>	The thermal insulation of the building's roof and walls
<b>OPTION 2</b>	The installation of a photovoltaic system
<b>OPTION 3</b>	Improving the extruder's water cooling system
<b>OPTION 4</b>	Reusing polyethylene (PE) bags for storing the PVC bottles and the sale of unused bags
<b>OPTION 5</b>	Recycling defective (polyvinyl chloride) PVC bottles
<b>OPTION 6</b>	Reusing PVC tanks for storing products and the sale of unused tank
<b>OPTION 7</b>	Replacing the old, electric motor of the conveyor in the bottling system
<b>OPTION 8</b>	Improving the ventilation system of the workshop area
<b>OPTION 9</b>	Replacing the inefficient incandescent lighting bulbs with light-emitting diode (LED) ones
<b>OPTION 10</b>	Replacing the old air compressor with a new one
<b>OPTION 11</b>	Replacing the bottle printing method with relevant stickers
<b>OPTION 12</b>	The installation of a new production line for bleaching suspension

### Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	2,440	9,067.81	0.3
Option 2:	23,400	3,425.5	6.8
Option 3:	600	1,037.4	0.6
Option 4:	12.6	2,787.4	/
Option 5:	176.1	4,723.9	/
Option 6:	/	7,020	/
Option 7:	200	186	1.1
Option 8:	200	111.6	1.8
Option 9:	15	122.76	0.1
Option 10:	300	262.75	1.1
Option 11:	712	356	2
Option 12:	23,500	3,539.5	6.6

### Resource savings

RECP OPTIONS	ELECTRICITY (KWH/YR)	MATERIALS (T/YR)
Option 1:	117,004	/
Option 2:	44,200	/
Option 3:	3,000	0.68
Option 4:	/	0.32
Option 5:	/	5.54
Option 6:	/	/
Option 7:	2,400	/
Option 8:	1,440	/
Option 9:	1,584	/
Option 10:	2,100	/
Option 11:	/	/
Option 12:	45,671	/

### Total pollution reduction

RECP OPTIONS	TOTAL CO <sub>2</sub> -EQ (T/YR)	WASTE (T/YR)
Option 1:	16.4	/
Option 2:	6.2	/
Option 3:	0.42	0.68
Option 4:	/	0.32
Option 5:	/	5.54
Option 6:	/	0.58
Option 7:	0.34	/
Option 8:	0.20	/
Option 9:	0.22	/
Option 10:	0.29	/
Option 11:	/	0.14
Option 12:	6.4	/

The introduction of RECP has been part of the EU-funded EU4Environment Action and executed by UNIDO. In this context, **Kau Tivi** 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) © - 2023 - UNIDO. All rights reserved. Licensed to the European Union under conditions.

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