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Advancing resource efficient and cleaner production in Armenia

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 can effectively 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.

"ECOLOLIK" PE - FOOD PRODUCTION

Company overview



Location: Shirak marz, Meghrashat community

Key products: vegetables (cherry tomatoes, beans, peppers, etc.)

No. of employees: 3

Main markets: Armenia

Founding year: 2021

"Ecololik" PE is a micro enterprise specialised in the cultivation of vegetables (mainly cherry tomatoes). The vegetables are grown within the company's greenhouse, with harvests taking place once a year. During the three-month cultivation period, the company uses 500 litres of water daily. In the upcoming future, it plans to enhance the current conditions of the greenhouse by installing a photovoltaic heating system and increasing the thermal resistance of the covering structures, measures which could potentially triple the production volume. Motivated to address production costs, the company participated in the RECP Green Clubs project under EU4Environment (2019-2024). This publication details the company's experience reported after the assessment exercise conducted in 2024.

BENEFITS

1

6 RECP options
focused on
energy and
resource
efficiency

2

Potential energy
savings of
60,000 kWh
annually

3

Potential
reduction of
300 tonnes of
solid waste
annually

4

Average payback
period of 5 years

Action implemented by:

The project's approach

The RECP assessment examined the production site and identified several RECP options, out of which the following six were prioritised:

RECP option 1: Collecting rainwater for irrigation: The measure suggests investing in a rainwater collection tank and connecting it to the existing irrigation system. This would allow for the collection of up to 40 % of the water needed for irrigation.

RECP option 2: Installing photovoltaic (PV) solar panels: A PV system with a capacity of 40 kWp would sufficiently cover the company's energy needs (considering the electricity demand of the heating), generating around 60 MWh of electricity per year.

RECP option 3: Installing a heating system: Small infrared heaters would help warm the greenhouse to ensure their optimal performance.

RECP option 4: Covering the greenhouse: By covering the greenhouse with a double layer of polyethylene film (and by pumping air inside to insulate the internal hot air), the greenhouse could operate during winter months. This would significantly reduce additional heating costs by maintaining a more stable internal temperature.

RECP option 5: Soil mulching

RECP option 6: Producing compost

SAVING ACHIEVEMENTS

Main RECP actions

OPTION 1	Collecting rainwater for irrigation
OPTION 2	Installing photovoltaic (PV) solar panels
OPTION 3	Installing a heating system
OPTION 4	Covering the greenhouse
OPTION 5	Soil mulching
OPTION 6	Producing compost

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	50	4.3	11.7
Option 2:	30,000	6,430	4.7
Option 3:	1,200	-	-
Option 4:	780	-	-
Option 5:	40	2.1	20
Option 6:	-	10.7	-

Resource savings

RECP OPTIONS	WATER (M ³ /YR)	ENERGY (KWH/YR)
Option 1:	18	-
Option 2:	-	60,000
Option 3:	-	-
Option 4:	-	-
Option 5:	9	-
Option 6:	-	-

Total pollution reduction

RECP OPTIONS	TOTAL CO ₂ -EQ (TONNES/YR)	GENERAL WASTE (T/YR)
Total:	25.2	300

The introduction of RECP Green Clubs has been part of the EU-funded EU4Environment Action and executed by UNIDO. In this context, "Ecololik" PE joined the Clubs 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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