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EU4Environment
Green Economy in Eastern Partner Countries

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.

"KARMIR KATAR" PE - FOOD PRODUCTION

Company overview

Location: Armavir Marz, Armavir
Key products: poultry, turkey, chicken, quail, duck, chicken eggs, quail eggs, slaughterhouse services
No. of employees: 6
Main markets: Armenia
Founding year: 2021
Certificates: GOST standards of the Eurasian Economic Union

"**Karmir Katar**" PE specialises in the incubation and sale of eggs, chicks, of poultry, and poultry slaughterhouse services. Its market reach extends to various regions of Armenia, including Yerevan. The largest share of the cost of egg production is attributed to feed, influenced by the aviary's microclimate. This means that there are limited climatic conditions within the aviary, which include the integrity of the physical characteristics of the surrounding environment (temperature, relative air humidity, air movement velocity, as well as the gaseous composition of air, noise level, the composition of ions and suspended particles, microorganisms, etc.). Motivated to address production costs and improve product quality, 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 efficiency
2. Potential annual savings of 64,189 EUR
3. Potential energy savings of 81,954 kWh annually
4. Potential reduction of solid waste of 194.4 tonnes annualy

The project's approach

The RECP assessment examined the production site and identified several RECP options, out of which six were prioritised:
RECP option 1: Installing Photovoltaic (PV) panels and solar water heaters: The capacity of 30 kWp PV panels is sufficient to cover the company's needs, with the annual generation of electricity from renewable sources being around 45 MWh per year.
RECP option 2: The thermal insulation of the aviary envelope: Considering that the thermal resistance of the current walls does not meet construction requirements, it is recommended to insulate the walls with perlite silicate slabs (with a heat transfer coefficient of 0.06 W/m°C) or a polyurethane (PU) foam layer (with a heat transfer coefficient of 0.027 W/m°C).
RECP option 3: Heat recovery from the aviary's ventilation system: Installing a ventilation system in the poultry farms is a firm energy-saving solution that would provide heating during cooler periods and cooling during warmer periods.
RECP option 4: Production of black soldier fly larvae (BSFL): The organic waste generated in the facility accounts for up to 216 tonnes, annually. Up to 90% of the waste could be used for BSFL production through a fully integrated automated FlyFarm Systems.
RECP option 5: Purchasing an electric vehicle (EV)
RECP option 6: Improving the wastewater irrigation system: This medium-cost measure would help reduce the treatment time for wastewater.

SAVING ACHIEVEMENTS

Main RECP actions

OPTION 1	Installing Photovoltaic (PV) panels and solar water heaters
OPTION 2	The thermal insulation of the aviary envelope
OPTION 3	Heat recovery from the aviary's ventilation system
OPTION 4	Production of black soldier fly larvae (BSFL)
OPTION 5	Purchasing an electric vehicle (EV)
OPTION 6	Improving the wastewater irrigation system

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	23,690	4,714	5.3
Option 2:	1,040	107	9.7
Option 3:	2,100	160	13.1
Option 4:	100,000	55,280	1.8
Option 5:	39,600	3,640	10.9
Option 6:	2,000	288	-

Resource savings

RECP OPTIONS	WATER (M^3/YR)	ENERGY(KWH/YR)
Option 1:	-	47,700
Option 2:	-	2,850
Option 3:	-	4,275
Option 4:	-	-
Option 5:	-	27,129
Option 6:	1,200	-

Total pollution reduction

RECP OPTIONS	TOTAL CO_2-EQ (TONNES/YR)	GENERAL WASTE (T/YR)
Total:	28.6	194.4

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