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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 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.

"MAGNON" OJSC - PRODUCTION OF STRUCTURAL METAL

Company overview



Location: Gyumri
No. of employees: 14-35
Export quota (%): 20
Founding year: 1998
Main markets: Armenia (Artsakh) and Georgia
Key products: playground and park equipment, sports ground, fitness equipment (metal structures)



"Magnon" is a manufacturer of structural metal-based products. Established in 1998 on the foundations of an enterprise that got privatised, the company turned around the pre-existing technological park (equipment, tools, and infrastructural elements such as buildings, water supply, and the electricity system) and uses it as its own. Unfortunately, the company's facilities are considered obsolete and in need of either renovation (buildings and storage areas) or replacement (ventilation system, water supply infrastructure). The equipment is out of order or unrepairable, occupying one-third of the working space. Furthermore, due to a lack of proper heating and thermal insulation, the company is unable to operate during the winter season. Motivated to address energy efficiency and the well-being of its staff, the company participated in the RECP Demonstration Project under EU4Environment (2019-2024). This publication showcases the company's experiences reported after the monitoring exercise conducted in 2022-2023.

BENEFITS



Action implemented by:

The project's approach

The RECP assessment examined the production site and identified several RECP options, out of which the following were prioritised. These include medium-cost measures:

RECP Option 1. Developing an energy-efficient behaviour among employees: This measure would help train the staff to reduce electricity consumption, especially during night-time.

RECP Option 2. Developing and implementing the environmental, health, and safety (EHS) management system and plans.

RECP Option 3. Installing an infrared heating system (IRHS): This measure would provide cheap and effective heating for the working space.

RECP Option 4. Installing photovoltaic (PV) solar panels and a solar water heating system with IRHS: This measure would decrease the energy use and ensure the company's energy independence from the electricity grid, or

RECP Option 5. Installing photovoltaic (PV) solar panels and a solar water heating system without IRHS.

SAVING ACHIEVEMENTS

Main RECP actions

OPTION 1	Developing an energy-efficient behaviour among employees	
OPTION 2	Developing and implementing the EHS management system and plans	
OPTION 3	Installing an infrared heating system (IRHS)	AND
OPTION 4	Installing PV solar panels and water heating system with IRHS	OR
OPTION 5	Installing PV solar panels and water heating system without IRHS	

The company is considering installing PV solar panels and a water heating system with or without IRHS, based on capacity and the available resources

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	/	300	/
Option 2:	3,000	10,000	0.3
Option 3:	2,500	15,000	0.1
Option 4:	45,000	7,500	6
Option 5:	12,400	1,990	6.2

Resource savings

	ELECTRICITY (KWH/YR)	
Option 1:	/	3,700
Option 2:	0.5	1,500
Option 3:	/	/
Option 4:	/	96,750
Option 5:	/	24,760

Total pollution reduction

RECP OPTIONS	TOTAL CO ₂ -EQ (TONNES/YR)
Total:	39

“ Our company was facing challenges due to the excess use of electricity, as well as a lack of thermal insulation and heating issues, especially during winter. Thanks to the RECP Demonstration Project, our company learned to systematically improve its energy efficiency and invest in the safety and well-being of our employees. As the factory plans to attain the needed international certifications to be eligible to export its output outside Armenia (and hence, increase the production capacity), the RECP Project has inspired us to come up with new ideas regarding the future implementation of RECP measures, said the CEO, Ms. Astghik Hovsepyan. ”

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