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Advancing resource efficient and cleaner production in Azerbaijan

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.

SHAMKHAL-86 LLC - CONCRETE PRODUCTION



Company Overview

Location: Mingachevir

Key products: concrete, cement, plaster

No. of employees: 18

Main markets: Azerbaijan

Founding year: 2005

Certifications: AZS Certificate of Conformity, ISO 9001

"Shamkhal-86" LLC is a concrete plant producing various types of concrete (including mix grades M100, M150, M200, M250, M300, M350, and M400). The enterprise oversees the production of all necessary components for concrete, including their storage and the supply of raw materials, ensuring strict adherence to the specified concrete mix recipe determined by industry standards. The production process involves thoroughly mixing these components before delivering the finished concrete mixture. Motivated to address production costs, the company participated in the RECP Demonstration Project under EU4Environment (2019-2024). This publication details the company's experience reported after the assessment exercise conducted in 2024.

BENEFITS



Action implemented by:



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The project approach

The RECP team examined the production site and identified several options, out of which the following three were prioritised by the company:

RECP Option 1. Installing filters for the cement silos: The absence of filters on the silos results in cement loss and environmental pollution. By installing modern filters and regularly maintaining them, including the timely replacement of filter cassettes and cartridges, cement loss and silo damage can be prevented.

RECP Option 2. Installing cement level sensors in the silos: Without level sensors, the employees cannot accurately gauge cement levels in the silos. This may result in overfilling, loss of raw materials, and potential equipment damage, whereas running out of cement can halt production and result in substandard products. Hence, a recommendation was to install level sensors in at least two silos to ensure accurate monitoring and prevent these issues.

RECP Option 3. Building warehouses to store inert materials: The lack of protective barriers for sand and gravel storage leads to material loss, especially in windy conditions. Building fences and shelters around these materials would help minimise waste. Additionally, a protective fence against wind, rain, and other elements would reduce material loss and improve overall efficiency.

SAVING ACHIEVEMENTS

RECP measures

OPTION 1	Installing filters for the cement silos
OPTION 2	Installing cement level sensors in the silos
OPTION 3	Building warehouses to store inert materials

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Total:	5,500	77,272	-

Resource savings

RECP OPTIONS	MATERIALS (T/YR)
Total:	1,077.9

“ We experienced cement loss in the form of dust when filling the silos and supplying raw materials to the concrete mixing unit. Since the plant was established in 2005, there have been no updates to our technology. However, recently, we have learned about changes in the fees associated with discharging pollutants into the natural environment, said Mr. Ibrahimov Ruslan, accountant at Shamkhal-86 LLC. ”

The introduction of RECP has been part of the EU-funded EU4Environment Action and executed by UNIDO. In this context, **Shamkhal-86 LLC** 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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