Funded by the European Union

EU4Environment
Green Economy in Eastern Partner Countries

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.

AZERFLOAT CJSC - GLASS PRODUCTION

Company Overview
Founding year: 2021
No. of employees: 287
Key products: "Karabakh glass" (extra-clear, tempered, laminated, and tinted)
Location: Sumgait Chemical Industrial Park
Main markets: Azerbaijan, Europe, Asia
Founding year: 2021
Certifications: Certificate of Conformity N. CQ-25/2022

"**Azerfloat**" CJSC is a glass production plant, located within the Sumgait Chemical Industrial Park. The plant specializes in producing sheet glass using float technology, which involves spreading molten glass in a hot bath. With an annual production capacity exceeding 10 million m² (100,000 tonnes) of various types of glass plates, the plant is a significant player in the industry. Equipped with advanced technologies from the German company HORN Glass Industries AG, the plant operates as a waste-free facility, recycling cullet fragments generated during production back into the manufacturing process. Reducing energy consumption is a strategic environmental goal for Azerfloat, and the application of the RECP methodology is a key tool in achieving this objective. 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

1. 2 RECP options (focused on energy efficiency)
2. Potential economic savings of 467,989 EUR annually
3. Potential investment of 2,000,000 EUR
4. Potential electricity savings of 7,743,092 kWh annually

The project approach

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

RECP Option 1. Investing in a heat recovery system: The temperature in the melting furnace reaches 1,600°C, and the flue gases generated during the smelting process present a valuable source of thermal energy waste that can be recovered and reused. The Turboden T6-HR ORC system is capable of converting these flue gases into electricity, generating approximately 4,029,600 kWh per year. Beyond improving energy efficiency and reducing resource consumption, heat recovery installations can also reduce emissions into the atmosphere.

RECP Option 2. Investing in photovoltaic (PV) solar panels: Solar energy is becoming an increasingly popular and cost-effective source of renewable energy. The plant's raw material shed, with its flat roof spanning 18,000 m², is an ideal location for installing solar panels. This setup could generate around 3,713,492 kWh of electricity annually.

SAVING ACHIEVEMENTS

RECP measures

OPTION 1	Investing in a heat recovery system
OPTION 2	Investing in photovoltaic (PV) solar panels

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Total:	2,000,000	467,989	12

Resource savings

RECP OPTIONS	ELECTRICITY (KWH/YR)
Total:	7,743,092

Total pollution reduction

RECP OPTIONS	CO_2-EQ (T/YR)
Total:	2,552

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

United Nations Industrial Development Organization
Ms. Tatiana Chernyavskaya
EU4Environment Project Manager
Tel: +43 1 26 0 26 5520
E-mail: t.chernyavskaya@unido.org

ACE Group Consultants, LLC
37, Khojaly Avenue, AZ1025, Damirchi Tower
Baku, Azerbaijan
Tel: (+994 12) 488 68 32
E-mail: office@aceconsultants.az