

Advancing resource efficient and cleaner production in Ukraine

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.

POLTAVA INDUSTRIAL ENTERPRISE "UNIVERSAL" UTOG - METAL PRODUCTS AND ELECTRICAL EQUIPMENT

Company overview

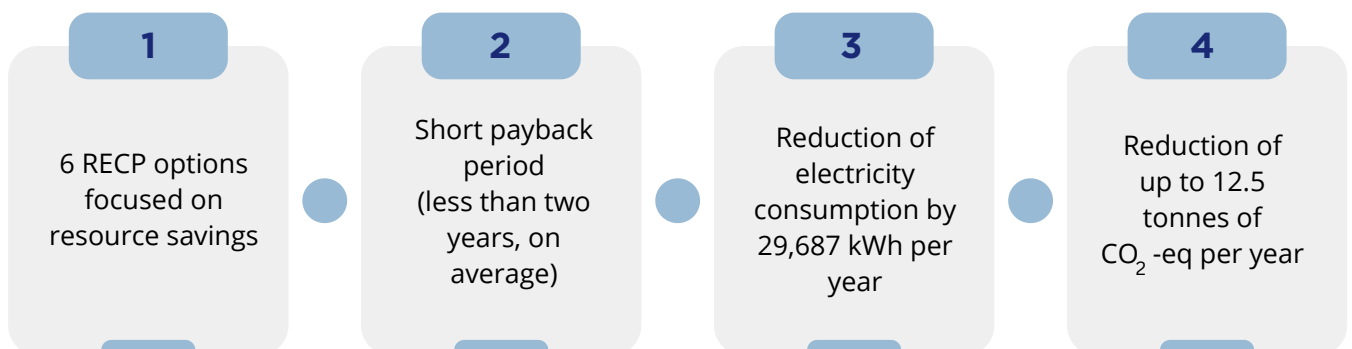


Location: Poltava
No. of employees: 109
Main markets: Ukraine
Founding year: 1949
Key products: metal products, low-voltage equipment, trade equipment, consumer goods



Poltava Industrial Enterprise "Universal" UTOG (Ukrainian Deaf Association) is a manufacturer of metal products. It produces the elements of light-emitting diode (LED) equipment, low-voltage equipment, wire equipment for retail and exhibition spaces, and other consumer goods. As a part of the Ukrainian Deaf Association, the enterprise receives incentives regarding all kinds of state taxes as well as partial reimbursement of utilities and has the option of renting out their premises. Motivated to reduce costs of production and improve the efficiency of heating system, the company participated in the RECP Clubs programme under EU4Environment (2019-2024). This publication shows the company's experience reported after the monitoring exercise conducted in 2023.

BENEFITS FROM IMPLEMENTING RECP OPTIONS



Action implemented by:

The project's approach

With the support of the RECP self-assessment tool and the contribution of the RECP experts, the company developed its RECP Action plan which included six RECP options, out of which the first was implemented:

RECP Option 1. Replacing the incandescent lamps with light-emitting diode (LED) lamps: The old and energy-inefficient incandescent lamps were replaced with LED ones in the interior lighting system.

RECP Option 2. Thermal insulation of the heating pipes: This proposal consisted of insulating the heating pipes from the boiler room all the way to the premises heated with modern polyfoam insulation. Currently, the pipes are in direct contact with the ambient air, as the old insulation is damaged up to 80%. The measure would significantly reduce heat losses by 76%.

RECP Option 3. Replacing the compressor: This proposal involved replacing the second compressor (which became obsolete) with a new, energy-efficient one that would reduce electricity consumption by 47%.

SAVING ACHIEVEMENTS

Main RECP actions

OPTION 1	Replacing the incandescent lamps with LED lamps
OPTION 2	Thermal insulation of the heating pipes
OPTION 3	Replacing the compressor
OPTION 4	Substituting electric heating with heating from a boiler
OPTION 5	Adjusting the compressor's safety valve
OPTION 6	Using a single boiler instead of two boilers in parallel

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	13	47	0.23
Option 2:	230	100	2.3
Option 3:	4,330	1,094	3.96
Option 4:	/	728	/
Option 5:	70	488	0.15
Option 6:	/	136	/

Resource savings

RECP OPTIONS	ELECTRICITY (KWH/YR)/%	NATURAL GAS (M ³ /YR)/%
Option 1:	541/0.3	/
Option 2:	/	723/5
Option 3:	12,627/7.5	/
Option 4:	10,889/6.5	-1,556/-11
Option 5:	5,630/3	/
Option 6:	/	980/7

Total pollution reduction

RECP OPTIONS	TOTAL CO ₂ -EQ (T/YR)
Total:	12.5

“When it comes to resource consumption, it is important to regularly analyse the current status of production. Even for obsolete equipment, we can improve process efficiency with timely adjustments to production equipment settings. Our participation in the EU4Environment Action has made it possible to identify production areas where resources were used inefficiently. In cooperation with the RECP experts, we identified a significant potential to improve our production processes, if the RECP measures are used to upgrade equipment and improve economic management, said the energy engineer, Mr. Denys Oborozhnyi.”

The introduction of RECP Clubs programme has been part of the EU-funded EU4Environment Action and executed by UNIDO. In this context, **Poltava Industrial Enterprise "Universal" UTOG** 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 environmental-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

This publication has been produced with the assistance of the European Union. Its contents are the sole responsibility of UNIDO and do not necessarily reflect the views of the European Union.

© – 2023 – UNIDO. All rights reserved. Licensed to the European Union under conditions.



United Nations Industrial Development Organization

Ms. Tatiana Chernyavskaya
EU4Environment Project Manager

Tel: +43 1 26 0 26 5520

E-mail: t.chernyavskaya@unido.org



Resource Efficient and Cleaner Production Centre

10G Starokyivska Str.

Kyiv, 04116, Ukraine

Tel: +380 44 227 83 78

E-mail: info@recpc.org