

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.

OBERBETON-INVEST LLC - MANUFACTURING OF REINFORCED CONCRETE



Company overview

Location: Zhytomyr

No. of employees: 215

Main markets: Ukraine

Key products: reinforced concrete products

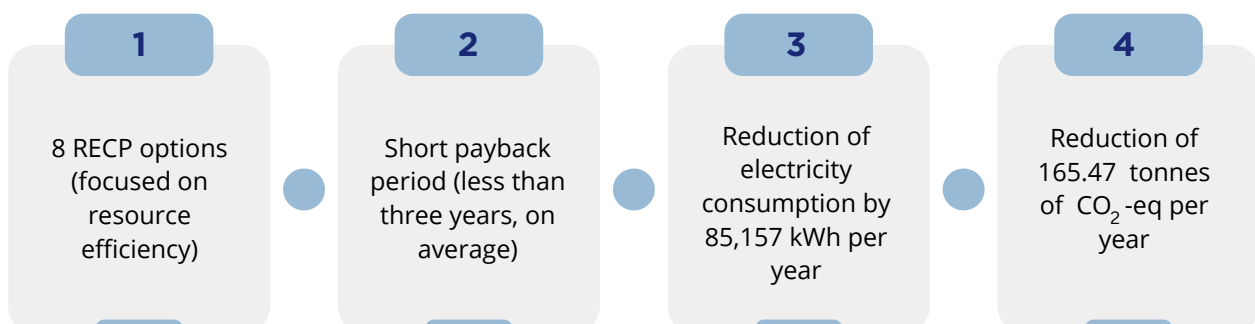
Founding year: 2008

OBERBETON

Oberbeton-Invest, LLC is a producer of precast custom concrete. Being one of the largest companies of this kind in Ukraine, it produces goods in accordance with the European Union standards of production, using only top-tier raw materials and a full range of modern pieces of equipment. The company also uses a testing platform (that meets the most stringent requirements) to measure the eligibility of its products. Motivated to improve product quality and reduce operating costs, the company participated in the RECP Demonstration Project under EU4Environment (2019-2024). This publication shows the company's experience reported after the monitoring exercise conducted in 2023.

“ Our company joined the project to achieve a greener production and reduce production costs through the efficient use of resources. Thanks to the RECP Demonstration Project, we learned about the importance of continuously monitoring resource efficiency and environmental impacts. Currently, we plan to continue raising awareness of our employees on the efficient consumption of resource and the potential application of resource efficiency measures, said the chief engineer of Oberbeton-Invest, LLC, Mr. Kostiantyn Osyka. ”

BENEFITS



Action implemented by:

The project's approach

The RECP assessment examined the production site and prioritised eight measures, out of which the following four are described below:

RECP Option 2. Reducing the generation of waste from the steel ropes: This involves developing organisational measures for the multiplicity of ropes in cable coils to reduce the remains of ropes in the coils, also reducing waste.

RECP Option 3. Reducing the operating pressure in the compressed air system: This consists of reducing the pressure of the compressed air system from 9.3 bar to 7 bar, which is sufficient for the regular use of the equipment. The measure would reduce the electricity consumption by 14%.

RECP Option 4. Installing a soft-start system for the compressor motor: This would help decrease the starting current, reduce the motor overload, and prevent overheating. It would also reduce electricity consumption by 5%.

RECP Option 6. Installing geothermal heat pumps: Installing two geothermal heat pumps (each with a heat output of 60 kW) would help replace the use of natural gas in the hollow core slab production. This would significantly reduce the use of natural gas by 59,000 cubic meters per year.

SAVING ACHIEVEMENTS

Main RECP actions

OPTION 1	Manufacturing by-products
OPTION 2	Reducing the generation of waste from the steel ropes
OPTION 3	Reducing the operating pressure in the compressed air system
OPTION 4	Installing a soft-start system for the compressor motor
OPTION 5	Technical metering of electricity consumption
OPTION 6	Installing geothermal heat pumps
OPTION 7	Using non-phosphate detergents
OPTION 8	Adjusting the sanitary equipment

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	/	102	/
Option 2:	/	8,250	/
Option 3:	1,250	1,127	1.1
Option 4:	675	421	1.6
Option 5:	6,750	8,862	0.8
Option 6:	120,000	44,250	2.7
Option 7:	/	1,250	/
Option 8:	500	1,250	0.4

Resource savings

RECP OPTIONS	ELECTRICITY (KWH/YR)/%	NATURAL GAS (M ³ /YR)/%	MATERIALS (TONNES/YR)/%
Option 1:	/	/	145/0.1
Option 2:	/	/	11/1.01
Option 3:	9,219/0.64	/	/
Option 4:	3,446/0.24	/	/
Option 5:	72,492/5	/	/
Option 6:	/	59,000/50.44	/
Option 7:	/	/	/
Option 8:	/	/	/

Total pollution reduction*

RECP OPTIONS	TOTAL CO ₂ -EQ (TONNES/YR)	WASTE (TONNES/YR)
Total:	165.47	13

*The company would also reduce the amount of nitrogen ammonium in the wastewater, from 44–50 mg/dm³ to less than 20 mg/dm³, and reduce the levels of phosphate from 17.57 mg/dm³ to less than 8.4 mg/dm³.

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