

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.

"KYIV PASTA FACTORY" LLC - FOOD PRODUCTION

Company overview



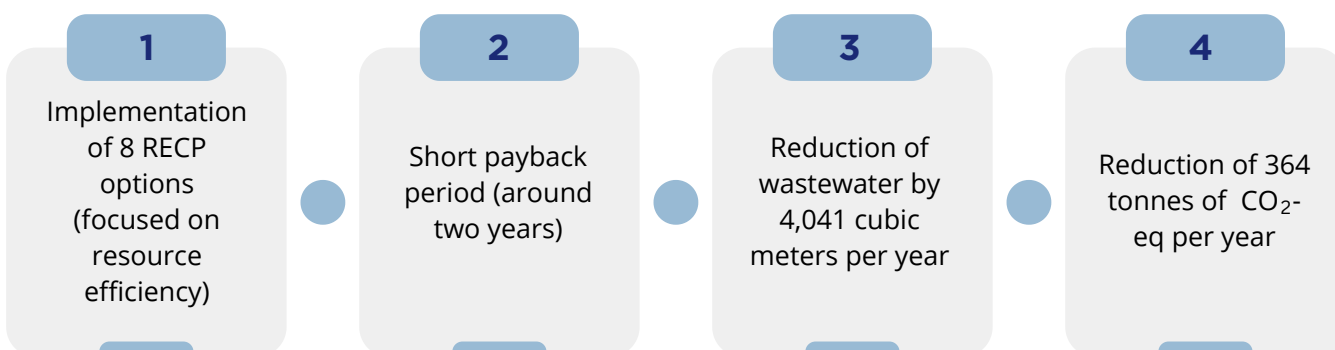
Location: Kyiv
Key products: various types of pasta
No. of employees: 96
Main markets: Ukraine
Founding year: 1987
Certifications: ISO 9001, ISO 22000



"Kyiv Pasta Factory" is a leading pasta producer on the Ukrainian market. For the production of short and long-cut pasta, the company relies on two high-end pieces of equipment purchased from Switzerland (BUHLER, with turbo-thermic drying technology) and Italy (PAVAN, with the TAS-NR technology). The lines provide a smooth vacuum process of raw materials and a high pressure pressing of semi-finished products. The drying process is done at high and ultra-high temperatures, resulting in high quality pasta that follows international standards. Motivated to improve its performance in terms of resource and energy consumption, the company participated in the RECP Demonstration Project under EU4Environment (2019-2024). This publication shows the company's experience reported after the monitoring exercise completed in 2023.

“ Our company joined the project to improve resource efficiency and the knowledge of our employees on the topic of RECP. Thanks to the RECP Demonstration Project, we learned that it is important to consider options to boost energy efficiency as there is always room for improvement. As we plan to continue improving our production processes, the RECP Project has inspired us to come up with new ideas and approaches regarding implementation of RECP measures in the future, said the chief power engineer, Mr. Yuriy Vivsanyi. ”

BENEFITS FROM IMPLEMENTING RECP OPTIONS



Action implemented by:

The project's approach

The RECP assessment examined the production site and prioritised the following eight measures:

RECP Option 1. Preventing losses of compressed air.

RECP Option 2. Optimising the compressor's outlet pressure OR

RECP Option 3. Replacing the compressor. If adopted, this measure would replace the first two RECP suggestions.

RECP Option 4. Optimising the transformer's performance: This consists of removing two of the four transformers as only two are needed to cover the electricity needs of the enterprise. This would significantly reduce electricity loss.

RECP Option 5. Utilising the air heat from the dryers: By installing heat exchangers-condensers, the heat from the dryers could be used to heat up the coolant in the production process (instead of using natural gas). This would significantly reduce natural gas consumption and associated costs.

RECP Option 6. Upgrading the automation process of the pasta production lines: This consists of upgrading the automatic control system of the pasta production lines to ensure stable operations, and reduce annual electricity, natural gas, and water consumption.

RECP Option 7. Efficient consumption of water during the equipment wash.

RECP Option 8. Heat recovery from the compressor.

SAVING ACHIEVEMENTS

Main RECP actions

OPTION 1	Preventing losses of compressed air
OPTION 2	Optimising the compressor's outlet pressure
OPTION 3	Replacing the compressor
OPTION 4	Optimising the transformer's performance
OPTION 5	Utilising the air heat from the dryers
OPTION 6	Upgrading the automation process of the pasta production lines
OPTION 7	Efficient consumption of water during the equipment wash
OPTION 8	Heat recovery from the compressor

Economic key figures

RECP OPTIONS	INVESTMENT (EUR)	SAVINGS (EUR/YR)	PAYBACK PERIOD (YR)
Option 1:	2,125	2,410	0.87
Option 2:	/	151	/
Option 3:	2,538	1,544	2.4
Option 4:	/	3,203	/
Option 5:	22,500	13,915	1.6
Option 6:	200,000	65,202	3.1
Option 7:	3,700	2,566	1.6
Option 8:	3,000	1,145	2.6

Resource savings

RECP OPTIONS	ELECTRICITY (KWH/YR)/%	NATURAL GAS (M ³ /YR)/%	WATER (M ³ /YR)
Option 1:	24,345/1.73	/	/
Option 2:	1,526/0.1	/	/
Option 3:	15,595/0.32	/	/
Option 4:	24,108/1.71	/	/
Option 5:	/	26,842.5/7.8	334/3.4
Option 6:	282,000/20	71,458.3/20.8	350/3.56
Option 7:	/	/	3,357/34.5
Option 8:	/	2,209.4/0.65	/

Total pollution reduction

RECP OPTIONS	TOTAL CO ₂ -EQ (TONNES/YR)	WASTEWATER (M ³ /YR)
Total:	363.83	4,041

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