

Advancing resource efficient and cleaner production in Ukraine

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. In essence, RECP is all about producing with fewer resources and minimizing environmental impacts while increasing overall productivity.

For **Small and Medium-sized Enterprises (SMEs)**, the RECP methodology is an effective instrument in lowering production costs whilst improving their competitive advantage by applying environmentally friendly practices. The technical assistance and training provided to **SONET, LLC** under the EaP GREEN Programme outlined a RECP action plan for the company team. The RECP options presented below led to the effective **(1) replacement of the powder coating chamber** with a spray booth equipped with a recovery system, **(2) arrangement of a special area** for water-proof treatment, **(3) insulation of the polymerization chamber** and **(4) replacement of compressors**.

SONET, LLC

CONSTRUCTION MATERIALS AND METALWORK INDUSTRY

Company overview

Address: 57 Onikiiienka Str., Brovary, Kyiv oblast
Key products: 'HostRock' heat-ventilated facades and lifting equipment (elevators)
No. employees: 70
Main markets: Ukraine
Founding year: 2011
Certification: ISO 9001:2001



SONET, LLC mainly produces heat-ventilated facades, 'HostRock', and elevators (lifts). Additionally, the plant also performs (1) electric installation work in various buildings and facilities; (2) measurements of electrical appliances and networks; and (3) metal processing activities.

Benefits

Implementation of 4 RECP options
Reduction of 1.56 tonnes of waste/year
Emission reduction of 13.78 tonnes of CO₂-eq/year
Electricity savings of 32,814 kWh/year (9 per cent of the annual consumption)
Total economic savings of 6,676 EUR/year

*Participation in the project, and the implementation of the RECP options convinced us that reduction of operational costs was quite realistic. Moreover, the money saved was later invested into the modernisation of the plant, said **Viktor Roi, Director***

Action implemented by:

The project's approach



The RECP assessment examined the production site and identified 5 RECP options out of which 4 were implemented in the production areas of 'HostRock' heat-ventilated facades (options 1,2,4), and one, in the lifting and transportation equipment 'Khostelevator' and the production of metal parts (option 3):

RECP option 1. Replacement of the powder coating booth with a spray booth for a 98 per cent paint recovery rate. Paint loss in the painting process was between 20-40 per cent. By installing a special spray booth, 98 per cent of the used paint went back into the process. Hence, the total paint loss dropped to 18-28 per cent. The working environment also became cleaner as the suspended particles were reduced.

RECP option 2. Arranging a designated area for hydrophobization. Applying a hydrophobizer (waterproofing agent) is one of the key manufacturing stages in the overall production of facade tile. Initially, there was no special workplace equipped for this process, thus suffering from great product losses, mainly paint. The arrangement of a specially designated place reduced the consumption of raw materials by 8-10 per cent.

RECP option 3. Insulation of the polymerization chamber. Previously, the powder paint was sprayed over the tiles in a special chamber. Hence, when the tiles went into the polymerization chamber on square beams, the powder was melted on them. As the beams became fixed in the chamber through special technological holes, they reduced/diminished the spots of heat loss. As these holes became insulated, the heat was not wasted anymore. The insulation saved heat of about 2,660 kWh, annually.

RECP option 4. Replacing air compressors. The old air compressor was replaced with a new modern and more efficient one. It consumed less power, so energy consumption reduced, adjusting to real production needs.

The options helped reduce the procurement of raw materials and production costs, cut down on energy consumption, decrease environmental impact, and reduce waste generation to a minimum. Moreover, the identified options also presented secondary applications. By replacing the powder paint process and using a hydrophobizer, **SONET, LLC** reduced the cost of the materials used and avoided polluting the environment with dispersed substances, improving, thus, the onsite working conditions.

Saving achievements

Next steps

MAIN IMPLEMENTED ACTIONS

Option 1: Replacement of powder coating chamber with a spray booth equipped with a recovery system

Option 2: Arrangement of a special area for hydrophobization

Option 3: Insulation of the polymerization chamber

Option 4: Replacement of air compressors



ECONOMIC KEY FIGURES

	Saving (Euro/year)
Option 1:	888
Option 2:	2,326
Option 3:	280
Option 4:	3,182
Total:	6,676



RESOURCE SAVINGS

	Material (tonnes/year)	Electricity (kWh/year)
Option 1:	0.18	-
Option 2:	1.38	-
Option 3:	-	2,660
Option 4:	-	30,154
Total:	1.56	32,814



The boilers which run on peat combustion, providing heat for space heating in offices and industrial facilities and hot water supply, produce ash (useful fertilizer). SONET, LLC plans to use this waste as input for other production process, thus introducing circular economy principles. Ash can also be sold to agricultural companies. This option would save money for logistics of landfill disposal and, as a by-product with added value, increase general profit. In general, the company will continue efforts for reducing waste generation in medium and long terms.

*Thanks to the project, we identified the hot spots in the production line and outlined the ways forward. We implemented all the targeted options within the project. Apart from that, we also expanded the production of 'HostRock' facades based on the project's experience and performance, said **Viktor Roi, Director***

The introduction of RECP has been part of the EU-funded programmes: **EaP GREEN** (2013-2017) and **EU4Environment Action** (2019-2022) executed by UNIDO. In this context, SONET, LLC joined the RECP training and assistance programme under EaP GREEN. Follow-up visits have been then conducted under the new Action to check the implemented RECP options after the EaP GREEN Programme ended. EU4Environment helps the six EaP partner 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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