



KARTU UŽ ŽALIAJĄ EUROPA

EKO
BAZĖ

Together for a Green Europe!

Purpose and background

Two years ago, we successfully invested in a state-of-the-art recycling equipment for automotive glass, and this year we will materially upgrade our recycling equipment for all other types of waste glass. With the help of our Norwegian partners, we will invest nearly €1.5 million in the project (project No LT07-1-EIM-K04-006), which will be used to procure glass recycling equipment that will be the most state-of-the-art in the Baltic States in terms of quality, efficiency and lowest electricity consumption.

'Undecomposed glass remains in nature for centuries and, according to some scientific estimates, even a million years. In any case, glass is certainly one of the longest-lasting non-degradable wastes. With over 60,000 tonnes of glass currently circulating on the Lithuanian market, minimising its disposal in landfills is critical. By procuring new glass recycling equipment, we will be able to significantly increase the glass recycling capacity and the quality of the recycled raw material, to supply it directly to glass factories without any re-cleaning of impurities,' says Marina Curko-Notkuvienė, Commercial Director at 'Ekobazė'.

- We will materially upgrade the existing cullet production line by procuring new high-tech sorting machines, conveyors, compressors and other equipment components.
- We will be able to extract high-quality glass immediately and separate ceramic, porcelain and stone impurities (currently, the same glass has to be crushed and cleaned three times).
- We will produce high quality clear, green and brown glass the very first time, and we will be able to separate ceramic, porcelain and stone impurities in a quality way.
- Glass recycling efficiency will increase threefold.
- Energy consumption will be halved.
- The amount of dust entering the environment from recycled glass will be more than halved.

The project is funded by the Norwegian Financial Mechanism 2014-2021 Programme 'Business Development, Innovation and SMEs'.

Project title: DEVELOPING ENVIRONMENTALLY FRIENDLY TECHNOLOGIES.

Project code: LT07-1-EIM-K04-006.

Project partner name and country: Nofir AS, Kingdom of Norway.

Activity of the project partner: Waste management in the fisheries sector.

Project start date: October 2022.

Expected project end date: 31.10.2023.

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Project location: Elektrėnai municipality, Vilnius County

The target group directly benefiting from the project:

The project will directly benefit the following target groups:

Regional Level:

Employees, partners, local community and its members. At the NATIONAL LEVEL: Companies operating in the same economic activity area, partners of the company: suppliers, buyers, country nationals interested in the principles of green industry and circular economy.

International Level:

Companies operating in the same economic activity area in Latvia, Estonia, Norway, and foreign partners of the company: suppliers, buyers.

Benefits of the product for customers:

They will be supplied with ultra-clean glass. Ceramic and porcelain impurities in the glass mass cause defects in the bottles produced. The upgraded line will enable us to take into account requirements of various manufacturers and to adapt to them quickly, and to supply products that meet the customers' requirements.

The project will also disseminate information on greener production solutions and on reducing environmental pollution. The target groups of the project will be familiarized with and gain new knowledge on the application of green economy principles and environmental sustainability. Enterprises operating in the same economic activity area and their partners will be invited to familiarize with the environmentally friendly technologies introduced in the company's activities, innovative production solutions that save energy consumed and ensure the production of higher quality products. Two teleconferences and two on-site consultations for Lithuanian and foreign companies will be organized.

Target group indirectly benefiting from the project:

The project activities, namely introduction of new technological solutions in waste-glass management, development of circular economy, international cooperation seminars organised together with the Norwegian partner on best practice and knowledge on environmental friendliness, and publicity events will create the environment for expanding the introduction of environmentally friendly technologies in the operations of other companies, for enabling energy-saving solutions in production, and for reducing pollution at the regional and national levels. Recycling more glass will contribute to improving the environment greening, to developing cleaner solutions, to collecting and recycling of waste, and to reducing environmental pollution, which will have a positive impact on the improvement of the living environment, the preservation of nature and the reduction of pollution throughout Lithuania.

The project goal of UAB 'Ekobazė' is to introduce environmentally friendly technologies in glass recycling operations and to reduce the negative impact on the environment.

Additional objectives:

To increase the competitiveness of Lithuanian companies in the field of green industrial innovation, including the bio-economy, as well as to reduce economic and social disparities in the European Economic Area, and to strengthen the bilateral relations between the member countries of the European Free Trade Association and the EU-15 countries in Central and South-Eastern Europe and the Baltic States.

Brief description of the project

During the implementation of the project, UAB 'Ekobazė' will seek to implement innovative environmentally friendly technologies and upgrade the existing cullet production line by procuring additional high-tech sorting machines, conveyors, compressors and other necessary equipment. The modernized production line would significantly increase the company's efficiency, reduce energy consumption and reduce the amount of glass dust entering the environment due to high-quality dust extraction technology. The upgraded production line and an overhaul of the production process will result in a high-quality product: clear, green, brown glass and the separation of ceramic, porcelain and stone impurities. During the project, a new production line will be procured, and the production process will be upgraded. The project is unique because the upgraded line will enable us to take into account technical product requirements of various manufacturers and to adapt to them quickly.

Implementation of environmentally friendly technological solutions in the operations of UAB 'Ekobazė', procurement of innovative equipment, international cooperation, ensuring subsequent use and dissemination of the project results will contribute to the development of more sustainable solutions in the production process and increase the project promoter's competitiveness in green industry innovations, as well as the development of higher added value and sustainable growth of the Lithuanian economy.

To achieve the project goals and sustainable solutions in the company's operations, we will actively cooperate with the Norwegian company 'Nofir'.

For more information: www.nofir.no [Norwaygrants \(eeagrants.lt\)](http://Norwaygrants.eeagrants.lt)

Nofir
Bringing value to marine waste

Project monitoring indicators:

Indicator name	Unit of measurement	Significance
Annual CO2 reduction	t	0

Justification of the target value

In line with Clause 29 of the Guidelines, one of the indicators selected for this project was, i.e. 29.2, Reduction in energy consumption (MWh), while 29.1, Reduction in CO2 emissions (tonnes, CO2 equivalent) was not calculated.

Indicator name	Unit of measurement	Significance
Annual reduction in energy consumption	MWh	128472

Justification of the target value

With the existing equipment of the recycling line for waste glass packaging, the company consumes 94.82 kW of electricity to produce 1 unit of output, i.e. 1 tonne of glass. After the project implementation, with the new equipment of the recycling line for waste glass packaging, the following value will be achieved: 39,09 kW of electricity per unit of production, i.e. per tonne of glass. In total, the project implementation and the new equipment installation will result in a reduction of electricity consumption per unit of output, i.e. electricity consumption will reduce by 55.71 kW per tonne of glass. These calculations of electricity savings are based on actual data of UAB 'Ekobazė' and the technical parameters of the equipment to be procured.

The value of the outcome indicator 'Annual reduction in energy consumption' was calculated in line with the requirements of the 'Guidelines on the definition of target values for outcome indicators and the application of the methods for their calculation'. The baseline value is the energy consumption before the application submission in line with the company's actual calculations, equal to 1,919.723 MWh; the value planned after the implementation of the project, taking into account the technical parameters of newly procured equipment, and the detailed calculations, is 1,791.251 MWh; the target value for the energy consumption is calculated as the difference between the energy consumed before the project implementation and the planned energy consumption after the project implementation, 128.472 MWh. These calculations of electricity savings are made and based on actual data of UAB 'Ekobazė' and the technical parameters of the equipment to be procured. The new equipment will be greener, more efficient and consume less electricity to process the same amount of produce.

Indicator name	Unit of measurement	Significance
Annual increase in turnover of the project promoter	%	5.1

Justification of the target value

The company will significantly increase its production efficiency by procuring new equipment of the recycling line for waste glass packaging and by introducing new technological solutions in glass recycling. The new equipment will be more efficient and will result in higher glass recycling performance, as with the old equipment, cullet had to pass through the recycling line/machine 3 times, whereas the new equipment will prevent it and one or two passes will be sufficient, depending on the glass type. This will result in a reduction of the company's costs and an increase of the quantity and quality of the recycled glass. All these changes will lead to a higher quantity of the company-produced glass and to higher sales as the market has a high demand for glass, resulting in higher company turnover.

The value of the outcome indicator 'Annual increase in turnover planned by the project promoter' was calculated in line with the requirements of the 'Guidelines on the definition of target values for result indicators and the application of the methods for their calculation'. A (turnover before the application submission based on the last certified Financial Statement): EUR 24,314,090 (based on the certified Profit and Loss Statement of the company for 2021), B (the company turnover for the reporting year based on the last certified Financial Statement): EUR 25,554,352 (in 2026). The formula ($F = (B-A)/A \cdot 100\%$) then gives a projected annual turnover growth of 5.10 % ($(EUR 25,554,352 - EUR 24,314,090) / EUR 24,314,090 \cdot 100\% = 5.10\%$). The calculation of the company's turnover A and B values is presented in the Annex to the Business Plan (the Excel file of the Financial Part of the Business Plan).

Indicator name	Unit of measurement	Significance
Annual profit growth of the project promoter	%	3.46

Justification of the target value

The company's sales and profits are directly related to the amount of recycled glass and the demand for quality clean glass that is marketable. In Lithuania, 60,000 tonnes of glass circulate on the market annually. The market has glass surplus and insufficient cleaning capacity. With this project, the company is addressing the problem both at the company level and at the national level, and aims to increase the volume and quality of glass recycling. The demand for recycled glass is stable in the Lithuanian and foreign markets. A lot of semi-cleaned glass used to go to Ukraine where it was cleaned. Other countries only want quality glass, thus the company seeks to introduce innovative and environmentally friendly technological solutions to increase the volume and quality of glass recycling, and it actively cooperates, concludes new contracts for clean glass sale with Lithuanian and foreign manufacturing companies and supplies them with recycled glass. After the project implementation, the new glass recycling equipment will increase in the quantity and quality of recycled glass and thus will lead to higher glass sales on the Lithuanian and foreign markets, and higher company's glass sales will result in higher company's profits.

The value of the outcome indicator 'Annual planned profit growth of the project promoter' was calculated in line with the requirements of the 'Guidelines on the definition of target values for result indicators and the application of the methods for their calculation'. A (net profit before project implementation, based on the last approved Financial Statement): EUR 1,485,920 (based on the certified Profit and Loss Statement of the company for 2021), B (net profit for the reporting year, based on the last approved Financial Statement): EUR 1,537,397 (for 2026). The formula $(F = (B-A)/A*100\%)$ then gives a projected annual turnover growth of 3.46 % $(EUR\ 1,537,397 - EUR\ 1,485,920)/EUR\ 1,485,920*100\% = 3.46\ \%)$. The calculation of the company's net profit A and B values is presented in the Annex to the Business Plan (the Excel file of the Financial Part of the Business Plan).

Indicator name	Unit of measurement	Significance
Number of new environmentally friendly products or technologies introduced (new at company level)	Units.	1

Justification of the target value

The company will significantly increase its production efficiency by procuring new equipment of the recycling line for waste glass packaging and by introducing new technological solutions in glass recycling. The new equipment will be more efficient and will result in higher glass recycling performance, as with the old equipment, cullet had to pass through the recycling line/machine 3 times, whereas the new equipment will prevent it and one or two passes will be sufficient, depending on the glass type. This will result in a reduction of the company's costs and an increase of the quantity and quality of the recycled glass. All these changes will lead to a higher quantity of the company-produced glass and to higher sales as the market has a high demand for glass, resulting in higher company turnover.

The value of the outcome indicator 'Annual increase in turnover planned by the project promoter' was calculated in line with the requirements of the 'Guidelines on the definition of target values for result indicators and the application of the methods for their calculation'. A (turnover before the application submission based on the last certified Financial Statement): EUR 24,314,090 (based on the certified Profit and Loss Statement of the company for 2021), B (the company turnover for the reporting year based on the last certified Financial Statement): EUR 25,554,352 (in 2026). The formula $(F = (B-A)/A*100\%)$ then gives a projected annual turnover growth of 5.10 % $(EUR\ 25,554,352 - EUR\ 24,314,090)/EUR\ 24,314,090*100\% = 5.10\ \%)$. The calculation of the company's turnover A and B values is presented in the Annex to the Business Plan (the Excel file of the Financial Part of the Business Plan).

Indicator name	Unit of measurement	Significance
Annual profit growth of the project promoter	%	3.46

Justification of the target value

New equipment will be procured and new environmentally friendly technological solutions will be introduced in the company's recycling line for waste glass packaging. The project aims to materially upgrade the existing cullet production line by procuring new high-tech sorting machines, conveyors, compressors and other equipment components. The upgraded production line will increase production efficiency, reduce energy consumption and more than halve the amount of glass dust released into the environment (due to high-quality dust extraction technology). The production line upgrading and the overhaul of the production process will result in a high quality product: clear, green, brown glass and the separation of ceramic, porcelain and stone impurities. Moreover, the quality of the glass becomes good immediately, and it may be supplied to factories straight away.

The project is unique because the upgraded line will enable us to take into account technical product requirements of various manufacturers and to adapt to them quickly. After the upgrade, it will be the top state-of-the-art glass recycling facility in the Baltic States. The project will triple the production efficiency and halve the energy consumption. This will enable the company to reduce the cost-price of the product, while maintaining high product quality, and to maintain its competitiveness in the market. The upgraded production line will attract a large number of interested parties, from producers to recyclers.

The company's long-term goals are: to participate in the system of collection and recycling of glass packaging waste in Lithuania, to expand in the Latvian market, to contribute to the Green Deal pursued by Lithuania and the European Union in order to collect and recycle glass waste, to reduce the environmental impact, and to contribute to stopping climate change by reducing CO2 emissions in the production process. The experience gained from this project will be used in other projects.