

PROJECT FROM A TO Z, FROM AUDIT AND DESIGN TO FINANCING

Case study
Simoldes Plasticos



Zero-emission industry

Simoldes Plasticos EUR 630,000

Total investment cost

Investment effects at Simoldes Plasticos

Modernization of injection molding machines

Reduction of energy
consumption by
approximately 30%
- 2000 MWh per year
Payback period: <2 years

Modernization of the cooling system

Reduction of energy
consumption by
approximately 35%
- 500 MWh per year
Payback period: <1.5 years

Heat recovery

Reduction in energy
consumption
- 1000 GJ per year
Payback period: 2 years

How did it start?

Our cooperation with the Simoldes Plasticos plant in Jelcz-Laskowice has resulted in as many as 5 investment projects. Initially, the client conducted a company energy audit with us, and then decided successively to modernize the lighting system in the hall, the compressed air control system, modernize the refrigeration system, recover heat from compressors and modernize plastic injection molding machines. The entire project was financed under the ESCO model.

01

Company energy audit

We entered into cooperation with Simoldes Plasticos when we performed an energy audit in the plant in 2015 - **we identified as many as 24 measures aimed at improving the plant's energy efficiency.** Our engineering team defined measures with the highest potential to reduce the plant's energy intensity, among which upgrades in the refrigeration plant, lighting and production machinery are to be found.

02

Lighting upgrades

We implemented the DALI lighting control system and utilized the natural light while adjusting the intensity of the artificial light.



03

Compressed air system

We have fixed leaks in the compressed air system, which has resulted in **a reduction of air losses worth more than EUR 37.7 thousand annually.**

04

Modernization of the cooling system

As part of the chilled water system upgrade, **we installed a master control system that, by reading temperature parameters from the machines, measuring the outside temperature and analyzing the status of the refrigeration circuits, controls the operation of the system's equipment accordingly.** The project included linking all chillers and drycoolers to the control system and using freecooling, i.e. taking advantage of the low outside temperature.

05

Heat recovery

We implemented a waste heat recovery system in the water/oil heat exchanger in the compressors. The exchanger is employed in series in the compressor's oil refrigeration circuit, where **heat is transferred from the hot oil to water, used for central heating, DHW or heating the air.**

06

Pilot system for optimizing the operation of injection molding machines

We employed a frequency converter in the circuit which powers the electrical drive in the hydraulic system. The main advantage of such a technology is the ability to control the oil flow and the system's activation. This allows **the pressure demand to be adjusted to different injection molds and leads to energy savings.** The upgrade does not affect any other parameters of the injection molding machine. Therefore, it is possible to produce parts of different weights with the highest energy efficiency.

DB Energy has approached the modernization project in our plant with high complexity. Once a thorough energy audit was performed, the company agreed to implement indicated solutions. Moreover, it recommended an external financing for a project, that is the ESCO financing method thanks to which we were able to immediately start the project development. Such projects are a win-win for both the contractor and investor.

Paweł Czerkowski
Director of Technical Affairs at Simoldes Plasticos

1445

industrial projects

We help medium and large industrial companies become part of a zero-emission future. We want to co-create factories that we could have right outside our doors. We advise, design, implement and finance energy efficiency activities. This is decarbonization that pays off.

EUR 1.3 bn

value of completed
projects

9.8 TWh

total reduction
in energy consumption

EUR 512 mln

annual savings of our
customers

Decarbonization that pays off