

## **ENERGY-SAVING MODERNISATION**

For many years now, the University has been installing proper thermal insulation on the walls and roofs of the buildings used for teaching and scientific research activities.

Since 2010, the employees of Jan Dlugosz University in Czestochowa have intensified their activities by carrying out thermo-modernisation of teaching & learning buildings - the facilities located at Waszyngtona 4/8, Armii Krajowej 13/15, Dąbrowskiego 14 and the student dormitory - 'SKRZAT' (at Dąbrowskiego 76/78).

The condition for carrying out works related to the thermo-modernisation of the facilities was the execution of energy audits – an analysis assessing the technical condition of buildings and containing proposals for concrete solutions improving its energy performance, with an indication of the most cost-effective ones.

On the basis of energy audits, at the project and estimated cost documentation stage, the economic efficiency of the investment was assessed taking into account the calculation of the heat transfer coefficient through the partition walls, the calculation of the state of existing power and heat energy demand, the calculation for a given range after insulation, the heating costs of the building premises and the savings that can be achieved through the implementation of the project.

The utilised solutions resulted in the reduction in the energy consumption for heating by about 15 percent, and savings in electricity costs.

As part of the thermo-modernisation activities, the works of the insulation of walls and roofs, the replacement of window and door joinery and the replacement or modernisation of heating systems were carried out.

For individual thermo-modernisation, apart from its own resources, the University obtained targeted grants from the Ministry of Science and Higher Education.