



POLISH AND NORWEGIAN CITIES
together for climate and energy

MODERNISATION OF STREET LIGHTING IN JASŁO

Sector: Energy efficient lighting

Timeframe: 2014

Location: Jasło, Poland



PROJECT BACKGROUND

Municipality of Jasło (approx. 36 000 inhabitants) is located in the north-eastern part of Poland, in Podkarpackie Voivodeship. It is an active member of the Association of Municipalities Polish Network "Energie Cités", as well as the Covenant of Mayors signatory since August 2015. Within the Priority Programme "Green Investment Scheme (GIS) part 6: Owl - Energy efficient street lighting", operated by the National Fund for Environmental Protection and Water Management, it implemented a project entitled "Modernisation of street lighting on the area of the city of Jasło" which was completed in 2014.

PROJECT DESCRIPTION

The main objective of the investment was to reduce energy consumption and CO₂ emission, thus contributing to the environmental protection and mitigation of greenhouse effect, which has negative influence on the world's climate. An important precondition for modernising street lighting within the OWL programme was that the municipality leased from PGE Dystrybucja SA light poles located on its area (the company, seated in Lublin, is the owner of the lighting infrastructure).

The modernisation project consisted in the replacement of 1495 of old luminaires (out of 3512 existing) with the new, energy efficient ones. Moreover, intelligent lighting control system was installed, as well



as the power limiters. Thanks to the latter new lamps consume less electricity when the road traffic is lower. Old luminaires - mostly mercury lamps - had large capacity (over 250 W), were outworn and often failed. New sodium luminaires have considerably lower capacity: 70, 100 and 150 W. For the long time they will not need intervention from the repair services, which will also significantly reduce maintenance costs.

112 lighting circuits were modernised and each of them was equipped with a box with power limiters and an intelligent control and remote monitoring unit. The investment's scope included whole city area. Installation of intelligent control and remote monitoring system enables the supervision and maintenance services to monitor performance of the lighting system. Responsible staff immediately receives information on all failures, disturbances,



power shut downs by the electricity provider and interventions from the maintenance staff, which enables quick reaction and immediate removal of the failures.

FINANCING SCHEME

The investment cost amounted to 2 876 982 PLN. Necessary financial resources came from the subsidy (1,3 M PLN) and the loan (1,5 M PLN) that the city received from the National Fund for Environmental Protection and Water Management within the Priority Programme OWL 2012-2015. Self-governments, who applied for funding, could receive cost reimbursement up to 45% of the investment's total eligible cost, as well as separate loan covering up to 55% of the investment's total cost. Conducted modernisation of street lighting resulted in municipality's lower expenses for electricity and for the maintenance of the lighting system.

PROJECT RESULTS

Modernisation of street lighting reduced electricity consumption by 40%. As a result, its operation costs decreased by nearly 700 000 PLN per year. Reduction of electricity consumption also contributed to the reduction of CO₂ emissions to the atmosphere by approx. 1200 Mg/year. The simple replacement of luminaires allowed already for the 30% reduction of installed capacity. Additionally, in consequence of the installation of power limiters, the power consumption is lowered during the night hours when the intensity of vehicle and pedestrian traffic is smaller. This results in 40% reduction of the demand for electricity from the grid and translates into the lower costs of its purchase. These costs not only take into account lower electricity consumption but also reduction of fixed charges. As a result, Jasło's expenditures were significantly lowered.

In 2015 CO₂ emission came to 1 233 tonnes, which is 51% of the emission level from before the modernisation. Since it was estimated to achieve

46% reduction, the effect is even higher than expected, which proves that the investment was well planned and implemented.



MORE INFORMATION

Municipality of Jasło

12 Rynek str.

38-200 Jasło, Poland

e-mail: urząd@um.jaslo.pl

phone: +48 13 448 63 00

fax: +48 446 29 76

More info (in Polish):

www.jaslo.pl/pl/news/1116-ton-co2-mniej-program-sowa-zako%C5%84czony