

# RECONSTRUCTION OF STREET LIGHTING

# MUNICIPALITY OF GORNA ORYAHOVITSA, (BULGARIA)

*The project aims at overall reconstruction of the street lighting system in the city of Gorna Oryahovitsa. It envisages also two main groups of measures for energy efficiency improvement: replacement of the existing luminaries and lamps by more efficient ones and introduction of a centralized control and regulation under night and semi-night duty. The savings from this project are easy to forecast and the additional benefits impart it social significance.*

## PARTNER

The city of Gorna Oryahovitsa is situated in Northeastern Bulgaria, in the foothills of Arbanashka Mountains along the River Yantra valley at 25°42' East of Greenwich. The Municipality has an important geostrategic location, since important international and local transport arteries intersect on its area. Its territory is traversed by the axis of European Transport Corridor No. 9 (connecting Eastern and Northern Europe with Asia Minor via the Balkan Peninsula). The city of Gorna Oryahovitsa has a population of more than 30 thousand people.



## CONTEXT

### **Project duration: 2002 - 2007**

Street lighting in almost all the Bulgarian municipalities, including in the city of Gorna Oryahovitsa, is inefficient in both qualitative and quantitative terms. At the start of this project not more than 30% of the installed capacity of the street lighting system in the city was in operation. It provided luminance level far below the norm requirements. For shortage of finances the lighting on the streets of the city of Gorna Oryahovitsa used to be switched off or deliberately reduced for long periods of time. An undisputable fact was the mass use of inefficient luminaries and lamps of high watt rating, as well as the absence of automatic control of lighting and the inadequate norms for illumination of the open public spaces and streets.

The major objectives formulated by this project were to reduce electricity consumption by street lighting in the city of Gorna Oryahovitsa and hence the related costs, to ensure good-quality street lighting and in this way contribute to traffic safety. This is also an effective vehicle for popularization and dissemination of good practices and innovative technology solutions related to improvement of energy efficiency. In this way a model for reconstruction

in this field is created, which may be broadly disseminated among the EcoEnergy member-municipalities.

The project evolved in several phases:

- Once the baseline state was established, a group of experts submitted their proposals concerning improvements to be made to the street lighting system.
- Elaboration of a technical project design concerning the overall reconstruction.
- Conducting of a series of tenders for selection of suppliers of luminaries and bulbs.
- Formulation of the project outputs and project impact.
- Dissemination of the experience accumulated during project implementation through organization of meetings among municipalities.

## EXPERIENCE OF THE PARTNER

### Partnership process

This project was implemented in the framework of the Energy Efficiency Programme of Gorna Oryahovitsa Municipality. Its main goal was normalization of the luminance norm requirements as well as reduction of budgetary expenditure after the implementation of energy conservation measures.

The accession to the GreenLight Programme was effected thanks to the assistance of the Municipal Energy Efficiency Network EcoEnergy, which is the official endorser of the Programme.

### Technical data

Implemented actions

- Replacement of the existing luminaries by new energy efficient ones with high pressure sodium bulbs;
- Introduction of a centralized system for computerized control of street lighting;

## COST AND BENEFITS

### Economical

The project was financed with equity funds of Gorna Oryahovitsa Municipality.

Money saved: 133 230 €/year

Payback period: 1.8 years.

### Environmental

Energy saved: 2 778 380 kWh/year

## EVALUATION AND OUTLOOK

Achieved results:

- Energy savings;

- Cost savings;
- Positive impact on the environment;
- Improved comfort in the city;
- Reduced criminality rate and improved traffic safety;
- Upgrading of the knowledge and skills of municipal officials and local experts, who had been involved in project implementation;
- Development of a good practice and dissemination of information about the implemented activities and achieved results.

## FURTHER INFORMATION


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*This GreenLight Good Practice Case Study was prepared under the New GreenLight project with a partial support of the European Commission. The sole responsibility for the content of this publication lies with the authors. The views expressed here do not necessarily reflect the views of the Commission. The European Commission is not responsible for any use that may be made of the information contained therein.*

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