

# CHANGING THE TYPE AND REDUCTION THE ELECTRIC POWER OF LUMINAIRES SECTOR

Road  
Street, square

# OSWIETLENIE ULICZNE I DROGOWE OUID, KALISZ (Poland)

„Oswietlenie Uliczne i Drogowe” decided to replace old mercury discharge lamps by new sodium discharge lamps. In the same time, the replacing was connected with reduction of the electric power of the luminaries and resulting in the great energy savings. The calculations prepared by the Partner OUiD Kalisz show that the average monthly energy cost of lighting before modernization was about 50% higher than now.



## PARTNER

„Oswietlenie Uliczne i Drogowe” sp. z o.o. is the owner of street lighting systems on a part of Wielkopolska voivodeship. Lighting service is serviced on the area of 110 communes.

The lighting system consists of:

- 6027541 m low voltage lines in common with electrical supply lines,
- 69751 luminaires installed on electrical supply lines supports,
- 827803 m. separated low voltage lines,
- 533 luminaires installed on separated network,
- 21414 street lamps with 23471 luminaires
- 6550 lighting switch station

The main activity aim of „Oswietlenie Uliczne i Drogowe” sp. z o.o. is lighting service consist of energy supply assurance and maintenance in good technical condition street lighting system.

At the local market this company is the biggest street lighting operator.

## Context

The company managed and operated the street lighting at local territory. It undertakes activities in the new investments and modernization of the old lighting systems in order to improve quality of the lighting, energy and economic savings.

At present the Company is going to prepare the installation of the new intelligent electronic system to manage the whole street lighting in the city.

# EXPERIENCE OF THE PARTNER

## Partnership process

In 2006 the TRIMAX company, as an endorser in the GreenLight Programme, invited "Oswietlenie Uliczne i Drogowe" OUiD in Kalisz to be a partner in the GreenLight Programme. The lighting and the energy efficiency specialist from TRIMAX, as a adviser and consultant, is preparing the system of the street lighting in Kalisz city.

## Technical data

During the modernization OUiD changed type and electric power of the luminaires.

188 mercury discharge lamps were replaced by sodium discharge lamps.

Before the modernization the electric power of each luminary was 250W. During the modernization the electric power of lamps were replaced by 150W or 100W (in some cases).

After the modernization total electric power reduce from 51700 W to 26235 W.

# COST AND BENEFITS

## Economical

The calculations show that the average monthly energy cost of one luminary before modernization was about 50% higher than now.

OUiD in Kalisz replaced 188 old luminaries to new ones.

Energy saving: 101 860 kWh/year

Investment costs: 81 302,33 PLN

Energy cost savings 20 372 PLN/year (0,2 PLN/kWh)

Payback period: 4 years

## Environmental

There is a 50% reduction in the electricity consumption and CO<sub>2</sub> emissions and other exhaust gas as a result of the street lighting modernization. The reduction of Green House Gas emissions is very important for the climate change.

Replacing of the mercury discharge lamps by the sodium discharge lamps has very positive impact to environment, because of the fact of huge environmental nuisance of mercury.

# EVALUATION AND OUTLOOK

The representative of the KAPE S.A, the GreenLight National Contact Point is at all times in contact with the specialists at "Oswietlenie Uliczne i Drogowe" in Kalisz. He evaluated the success of the modernization and the lighting electricity savings.

Since the OUiD in Kalisz has become the GreenLight partner, the company is very engaged with the promotion of the Programme. The plaque with the information about taking part in GreenLight programme is displayed in the main building next to the entrance.

## FURTHER INFORMATION

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