



## CYEB Energy Efficiency Solutions / LED Lighting For Gas Stations

### INDUSTRY / SEGMENT

Integrated oil and gas company, gas stations

### BENEFITS

- Opportunities for savings existed in high power outdoor lighting
- Annual cost savings of EUR 129 496
- Overall simple payback period of 4.17 years

### APPLICATIONS

Leading edge, highly efficient LED luminaires for the canopy and for the street lighting

### PREPARATION PHASE

October 2014.

### IMPLEMENTATION PHASE

Six weeks in November – December 2014.

### SUMMARY

The CYEB Group is the only company in the CEE region that provides complex energy saving solutions based on a review of all energy inputs and efficiency. Based on the positive track record of our company and the outstanding quality/price ratio of our solutions CYEB has obtained a frame contract for designing and implementing energy efficiency lighting solutions for one of the most important oil and gas companies in the CEE region. Our experts carried out an energy audit program that focused on the energy efficiency of the outdoor lighting systems at the gas stations run by the oil company. Based on the results of the audit CYEB elaborated a proposal that aimed to reduce the energy consumption significantly. This case study is focusing on the results of our implementation project at 66 gas stations, during that we have installed more than 1 200 luminaires and reached a 60% energy saving in average. Further details are highlighted throughout the case study.

### COMPANY BACKGROUND

Our customer is one of the most significant integrated, international oil and gas companies in Europe. They are active in the upstream/downstream oil and midstream gas industries. In the retail sector the company operates several hundreds of gas stations in the CEE region. The gas stations are becoming more and more important in the revenue stream and from marketing point of view an inviting, luminous design and look of the gas stations is essential.

# Energy Saving Project at 66 Gas Stations

Target Area	Annual Resource Savings (kWh/year)	Annual Cost Savings (EUR)	Implementation Cost (EUR)	Simple Payback (months)
Canopy lighting	862 980	97 804	308 607	37.86
Street lighting	279 631	31 692	231 829	87.78
<b>Totals</b>	<b>1 142 611</b>	<b>129 496</b>	<b>540 436</b>	<b>50.08</b>

## OUR APPROACH

The CYEB team visited all the gas stations, compiled a detailed inventory of luminaires and light sources. During the site visits our team performed measurements of voltage level, power consumption, power factor. Based on the gathered information we completed an assessment to inform our customer about the energy saving opportunities and presented different solutions to replace the existing system. During a management meeting with the heads of our customer we evaluated the different solutions and after that we formulated a detailed business proposal. According to our customer's requirements we designed a „quick win“ project, so that the energy saving opportunities could be realized as soon as possible.

## ACTIONS DURING OUR PROJECT

As for a quick-win project we were asked to implement a „plug-and-play“ solution that means that we were re-quired to position our LED luminaires into the place of the old luminaires. Here is where our flexibility comes again into the picture, we were able to tailor our luminaires to the given requirements quickly and successfully. The table above summarizes the results of the specific actions that were made during our project.

## CANOPY LIGHTING

CYEB team has replaced the original 150/250W HQL luminaires with CYEB HLI 150/90 luminaires. Our implementation team faced serious challenges during the replacement process, because there were heterogeneous systems to change, every site had a surprise in store for us. We had to remove the obsolete luminaires and install our LED luminaires during non-stop retail business operation of the gas stations. A gas station is classified as dangerous workplace environment, we had to follow extremely strict safety rules. Our teams received a special training tailored to the extreme requirements. We accomplished the project without any violation fees. After implementing 775 pieces of CYEB HLI 150/60 and CYEB HLI 150/90 luminaires, as a result of a significantly better luminous efficacy (higher than 108 lm/W instead of the original 55-65 lm/W) the CYEB solution guarantees higher than 50% energy saving per year.

our team replaced the 510 pieces 100W HPS luminaires with PearlLight 24-60 G2 type CYEB LED luminaires. This part of the project produced challenges too. Inside the body of the light poles we met very different and non-standard technical solutions. We were however prepared to handle these situations and replaced the risky ones with standard mounting solutions. Thanks to the higher luminous efficacy (higher than 105 lm/W instead of the original 50-80 lm/W) the CYEB solution produces ~50% energy saving for our customer.

## STREET LIGHTING

In this project the positions of the light poles (luminaire spacing) and the mounting heights were set. In order to meet the required illumination level and the maximum energy saving at the same time, we implemented the product with the highest luminous efficacy (lm/W) from our portfolio. At the 66 gas stations

## RESULTS

Our customer increased significantly its energy conservation efforts with replacing the obsolete canopy and street lighting systems at its 66 gas stations. The improvements have made a significant contribution to the marketing value of its retail business activities. After more than 12 months of nearly faultless operation (only 2 drivers have failed) of 1 285 pieces of CYEB LED luminaires at the 66 gas stations our customer appreciated the excellence of our LED lighting solution.



CYEB, as a dynamically growing regional company provides its partners with complex, cost effective solutions by means of which they are able to reduce the volume and price of the energy they consume. We plan, implement and, if necessary, operate the energy saving investments. The efficiency of the projects we plan are always verified by means of metering after the implementation.