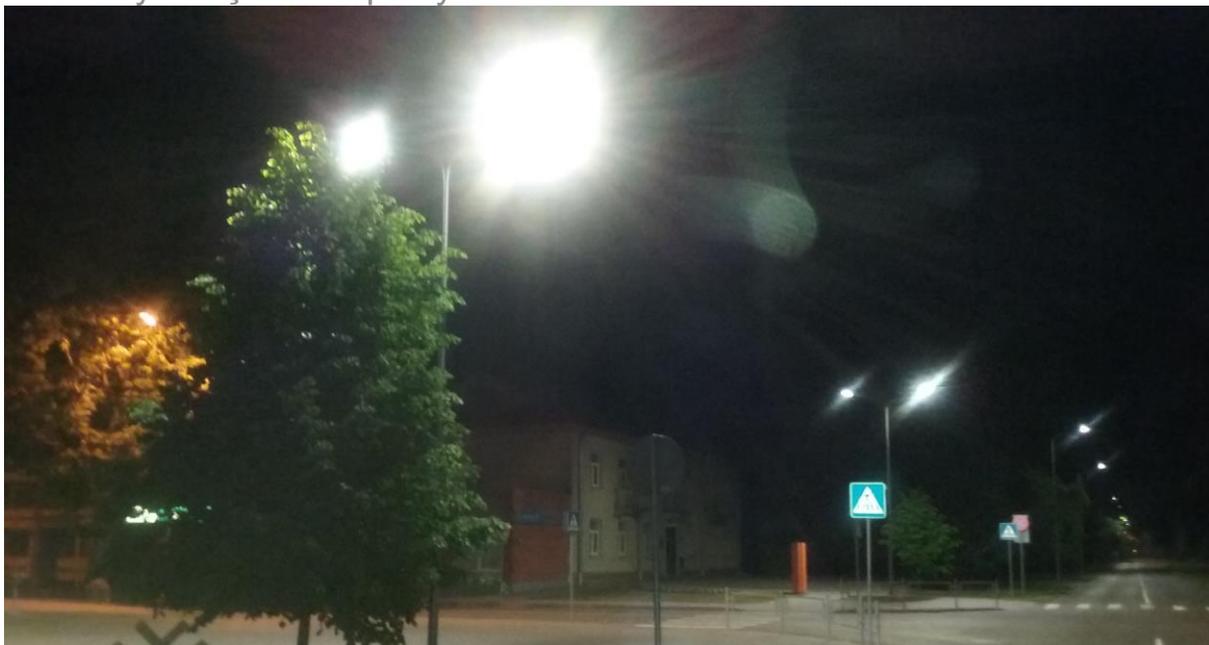




# Energy efficient street lighting procurement in Preiļi

Organisation: LEIF Latvian Environmental Investment Found (LEIF) and Preiļi municipality

Photo by Preiļi municipality



## Old product

- Energy intensive mercury containing light bulbs
- CO<sub>2</sub> emissions 6,3 t CO<sub>2</sub>/year

## GPP tender

- LED light bulbs
- Regulation of light intensity
- CO<sub>2</sub> emissions 1,7 t CO<sub>2</sub>e/year

## Results

Energy savings 70%  
Reduction of CO<sub>2</sub> emissions 4,6 t CO<sub>2</sub>e/year

## Introduction to case

### 1.1 PITCH-TALK – SUMMARY

The municipality Preilji decided to increase the energy efficiency of the municipal lighting system by replacing part of the lamps for outdoor lighting. Since such works are not feasible to cover only from municipal budget, they applied to existing public funds in order to acquire co-financing of the planned works. LED lamps were installed instead on three main streets of the municipality.

### 1.2 CASE CONTENT AND CASE ISSUE

In November 2013, in the first months of the PRIMES project, the municipality announced its first green public procurement. It was very simple and the municipal procurers tried to develop the GPP conditions by themselves following EC streetlighting guidance.

The main focus was energy efficient lighting, specifically, the replacement of old street lamps with new energy efficient LED. The tender was announced and the winner identified, but due to a lack of financial resources, the municipality couldn't implement the project in the first phase and the contract was postponed. In March 2015, the municipality applied for co-financing through the national Climate Change Financial Instrument and received the co-financing. The tender was implemented in June 2015.

### 1.3 SOLUTIONS APPLIED

Replacement of old light bulbs with more efficient light bulbs (LED) including regulation of lighting.

## Tender features

- Subject matter: Renovation of street lighting announced by the Procurement Unit in charge of Preilji Municipality
- Total cost of investments: 204 172 € (excluding VAT)
- Type of procedure: open
- Only single service contract foreseen, no division into lots
- Type of contract: direct service contract

## Procurement objectives

- To replace the old lighting system in three streets with new LED lamps
- To reduce CO<sub>2</sub> emissions by achieving more energy efficient street lighting
- To save costs through reduced energy consumption

## Procurement approach

- The contract has been awarded to the tenderer who offered the lowest price. The requirements for higher energy efficiency were included in the technical specification.



- Co-funding from Climate change instrument was a precondition for the tender contract to come effect.
- Subject matter: Renovation of Street lighting in Preiji.
- Technical specifications included: quality, energy efficiency, easy maintenance and recyclability requirements:

All materials shall be certified in Latvia, or, if certification not available, comply with Latvian legislation (verification: corresponding declarations/ certificates etc). The construction works may not disturb movement of inhabitants and traffic.

Requirements for LED lamps:

- The actual luminous fluxes of the system, including the optic losses 10073lm
- Nominal light output 11375lm
- Light flow temperature: 4000K ( $\pm 8\%$ )
- Light colour resolution (CRI) not less: than 70%
- Luminaire lifetime of not less than: 60 000h
- Lamps material: Cast aluminium
- Luminaire protection rating (IP) not less than: IP66
- Luminaire impact resistance class (GDP) not less than: IK10
- Luminaire installation type: Possibility to install stake apex and consoles
- Luminaire support compatibility with the final diameter of no worse than:  $\text{Æ } 40 \div 62\text{mm}$ , with installation angle adjustment possibility of  $-10^\circ$ ,  $-15^\circ$  or 0
- Electrical safety class according to EN-60598: I (first)
- Total electric power consumption no more than: 113W
- LED power no more than: 106,75W
- Luminaire power supply efficiency rate of not less than:  $\sim 0.92$
- Capacity factor ( $\text{Cos}\phi$ ) at least:  $\sim 0.95$
- The warranty period for all components of the luminaire (LED, transformer, casing) not less than: 2 years
- Access to the light source without the instrument application
- Access to the luminaire internal blocks without instrument applications
- The possibility to exchange the light source on the ground
- Automatic overheat protection:
- Working temperature range: In addition to the luminous flux reduction at  $-20^\circ\text{C} \div +25^\circ\text{C}$ , With luminous flux reduction of no more than 30% -  $35^\circ\text{C} \div +35^\circ\text{C}$
- The transformer power: 700mA
- Luminaire is made from 100 % recyclable materials at the end of life
- Protection from contamination by light: not worse than 0 candelas of light emission above  $90^\circ$  from the surface illuminated by light pollution reduction;



- Compliant with ROHS requirements

- Selection criteria (must criteria on eligibility of bidders):

The bidders must prove they have 3 references of performance of similar works: renovations of lighting system within the last five years (verification: list, contacts)

The personnel responsible for management of construction works, occupational safety, electric installation works must have corresponding qualification and at least 3 references of similar work, carried out within the last five years (verification: list, contacts, education certificates)

Contract performance clauses

- Documentation proving quality and compliance with standards of materials used must be stored by bidder and shown on request by municipality officials.
- 2 years warranty (verification: declaration)



## Criteria development

The municipality purchased the most up-to-date technology within the field of energy efficient lamps– LED lighting. The specification was developed by an expert within the field of lighting.

## Results

Calculation was performed according methodology GPP 2020

	CO <sub>2</sub> e emissions	Energy consumption
Low Carbon Solution	3 t CO <sub>2</sub> /year	1,7 toe/year
Old lighting system	11 t CO <sub>2</sub> /year	6,3 toe/year
<b>Total savings</b>	<b>8 CO<sub>2</sub> t/year</b>	<b>4,6 toe /year</b>

- 46 LED 91W and 18 LED 113W lamps were installed in Preiļi municipality replacing old Hg street lamps including regulation of light intensity. The previous energy consumption (73 MWh) was reduced by roughly 73% to 20 MWh.
- The current energy price in Latvia is ca. 0,16 €/kWh (depending on contract), and yearly savings (2016) are ca. 7950 €. However, the costs included reconstruction works not only change of lamps but renovation of the whole system.
- The new lighting system was well received by residents in all three streets.

## Lessons learned

- Green procurement actions in small size municipalities are dependent on different EU funds, because they can't implement large scale projects within their own budget framework, even if the project is economically beneficial in the long term.
- Mayors are hesitant to implement green public procurement due to potential higher costs. Setting GPP as precondition to acquire additional funding by financial institutions facilitates application of GPP is favourable.

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## About PRIMES

Across six countries in Europe; Denmark, Sweden, Latvia, Croatia, France and Italy, PRIMES project seeks to help municipalities overcome barriers in GPP processes, many of which lack capacity and knowledge.

PRIMES aims to develop basic skills and provide hands-on support for public purchasing organisations in order to overcome barriers and implement Green Public Purchasing. This will consequently result in energy savings and CO<sub>2</sub> reductions.– [www.primes-eu.net](http://www.primes-eu.net)

## About GPP 2020



GPP 2020 aims to mainstream low-carbon procurement across Europe in support of the EU's goals to achieve a 20% reduction in greenhouse gas emissions, a 20% increase in the share of renewable energy and a 20% increase in energy efficiency by 2020.

To this end, GPP 2020 will implement more than 100 low-carbon tenders, which will directly result in substantial CO<sub>2</sub> savings. Moreover, GPP 2020 is running a capacity building programme that includes trainings and exchange. – [www.gpp2020.eu](http://www.gpp2020.eu)



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