

Energy efficient lighting on Budapest's bridges

MUNICIPALITY OF BUDAPEST, HUNGARY

Procurement objectives

Liberty Bridge is one of the key crossing points over the Danube, and an iconic site within central Budapest. The city's master lighting plan included the illumination of a number of bridges, in order to allow safe transit while creating visually attractive landmarks at night. In 2009 a procurement process was launched to install lighting that would fit the aesthetics of the bridge, allow for the safe transit of trams, cars and pedestrians and withstand humidity and heavy vibrations. The sustainability and cost of the lighting solution were key concerns for the city.

Background

The Green Programme of Budapest was created in 2002. After Hungary joined the EU, the Municipality of Budapest created its own Green Public Procurement Regulation in 2006. The Municipality of Budapest aims to act in a way which is environmentally responsible, motivate contracting authorities to take part in environmental issues, and set an example by establishing and realising environmental targets. The Liberty Bridge was a pilot project for these ambitions.



Criteria used

Subject matter of the contract: Supply and installation of ornamental and street lighting on Liberty Bridge.

Technical specification: The required levels of lighting for carriageways and footpaths were specified, with reference to standard EN 13201 or equivalent. The quantities of luminaries, lamps and supports were set out in a schedule, along with the specific design and durability requirements identified.

The technical specifications were in conformity with the core EU GPP criteria for street lighting, which address the following elements:

- Lumen efficacy (based on the ratio of power input to visible light output)
- Ballast efficiency (based on the ratio of ballast output to lamp-ballast circuit input)

Results

More than 800 light fittings were installed to provide Liberty Bridge's ornamental lighting, 584 of which are LED lights. This amounts to installed power of 40.7 kilowatts, of which the LEDs account for 13.1 kilowatts. The project was carried out in 2009 at a cost of €1.66 million. The estimated life expectancy of the ornamental lighting installed is 15 years and 30 years for the street lighting. This longer lifespan means lower replacement rates, bringing considerable direct and indirect economic benefits and reduced waste. Replacing the lamps is difficult and costly due to their mounting on the bridge and the disruption to traffic, and these costs have been avoided. The savings on electricity compared with the original concept (which used halogen lighting) are estimated at €40,000 per annum, with total savings of €100,000 per annum.

Lessons learned

Although the tenderers did meet all the green requirements, there were not many bids presented. In the first round the procedure was unsuccessful; therefore a second procedure was needed to be able to conclude the contract. Ornamental lighting meeting green criteria is also currently being installed on the Margaret bridge, further enhancing Budapest's night-time vista. Additional contracts in which GPP criteria have been applied include procurement of recycled paper (2009-2011, €220,000) and the construction of a highway noise barrier (2009-2010, €4 million).