



DÉL-DUNÁNTÚLI TERÜLET-
ÉS GAZDASÁGFEJLESZTŐ
NONPROFIT KFT.



CENTRAL EUROPE Programme 2007-2013
VIS NOVA - projekt No 3CE359P3

Modernisation of public lighting with LED technology in Véménd village

Summary

The municipality of Véménd Village has continuously developed their institutions and the local public services in the recent years.

The main focus of the development concept of the municipality was not the introduction of new services but the improvement of the already existing, mainly compulsory public services. The main task is to provide the services as cost efficiently as possible.

In the last period it was mainly energy efficiency developments that have been made (introduction of pellet heating system, establishment of solar collector systems, heat insulation of buildings etc.)

A fully integral part of this concept was the modernisation of public lighting system using LED technology.

In the development period there was a favourable bank financing system available, banks were keen on financing investments retuning from saving.

The public lighting system operated with compact light tubes generally used in Hungary, with an output of 36W.

The provision of public lighting was a compulsory municipal task. On this ground, electricity bill and costs of maintenance were paid by the municipality.

Financing was independent of the actual costs of public lighting, which made the municipality interested in energy efficiency. The price of electricity had kept on increasing in the period prior to the investment, at a rate significantly above the rate of inflation.

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The compact lights became outdated by 2011. Lights had to be replaced frequently which led to a maintenance cost of HUF 2.200 Ft + VAT per light.

The power consumption of the lights installed was equal to the expectations, but brightness was below the planned level. As regards brightness, it had not been considered that the performance of a compact light tube will decrease to 65-70% of the original output after three years of use, besides the same amount of power used.

The annual cost of public lighting in the village rose to HUF 3,247,000, despite the measures made by the municipality to decrease costs: the joint purchase of power with other municipalities, and the joint maintenance of the system resulted in a 10% saving.

Raiffeisen Bank recommended their financial instrument developed together with EBRD to the municipality.

The point of this financial instrument was that EBRD granted preferential loan to municipalities for energy saving investments, and provided a further 20% non-refundable support.

The development in this financial instrument was first realised in Hungary in the village of Véménd.

Because of the long return period of the LED technology, VAT cannot be reclaimed if the municipality implements the investment, which leads to a 12 year return on the investment, which makes the investment impossible, as bank financing requires a shorter than 10 year return.

Taking this into consideration the municipality established a 100% municipality-owned property management Limited.

The investment was realised by the municipality's Ltd.

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During the investment, 12 – 18 LED luminaires supplied by TIVI Ltd. were installed. The planned energy saving is 67%, the saving of maintenance costs is 80%, with a view to the 5-year warranty on the devices, and the 25-years life span of the LED-s.

The planned return of the investment is 6 years and 4 months.

During the investment, in addition to the saving of energy, the strength of illumination was increased by at least 10%.

The gross planned value of the investment was HUF 25,760,000. At the preparation of the project a 4,121,600 HUF EBRD support was calculated.

The lights removed were purchased for HUF 3,709,000 by the company doing the investment, so no financing was necessary for this amount.

Raiffeisen Bank gave a financing offer for the remaining sum, by providing a HUF 12,776,960 long term loan adjusted to the return on the investment.

Implementation was done free from problems, and the electricity consumption of the finished system is equal to the original calculations.

During the realisation of the project EBRD withdrew their promised support. The withdrawal of the support was not related to the project but to the fact that support would have been offered through Raiffeisen Bank, but the framework contract on this was not renewed by Raiffeisen Bank and EBRD.

For this reason, the investment was implemented with conditions considerably worse than planned originally. As opposed to the planned amount of HUF 12,776,960, Raiffeisen Bank gave a long term loan, adjusted to the time of return of the investment, of HUF 16,898,560 Ft. The planned

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time of return of the investment considerably increased, due to the loss of the EBRD support.

As regards the technical implementation of the project, it followed the plans, the lighting output equals to the plans and the lighting devices have worked free from problems in the last two years.

The return of the investment was further reduced by the fact that the municipality has not used maintenance service since 1 January 2012. There is a five-year warranty on lights, the replacement of the lights is done for a one-time fee of HUF 25,000 + VAT, so no maintenance is needed.

Although this does not reduce the time of the return of the investment, it results in savings every year.

The introduction of the system of task-based supports on 1 January 2013 often made investments for energy efficiency meaningless. If an investment in a municipality had been done not by the municipality's Ltd but the municipality itself, the amount of task-based support could not have been used for paying the instalments of the credit.

In Véménd, the introduction of the system of task-based supports did not result in losses, as regards the financing of public lighting.

Although the return of the investment is longer than originally planned, the investment is still economical, paying back within a reasonable time. Among the possible alternatives, the solution chosen is still the most economical in the long run. In the future a large number of municipalities are expected to modernise their public lighting systems by investments of this type.

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