

# „Butterfly-effect” Energy and Climate Investment Concept

**Total investment planned:** 46 416 263 EUR

**Funding sources:**

*Requested funding:* 27 450 176 EUR / 59,14 %

*Own funding:* 18 966 087 EUR / 40,86 %

*Other sources [please specify]:* 0 EUR / 0 %

**Location of the planned investment:**

Alsómocsolád, Bikal, Hosszúhetény, Kárász, Magyarereggy, Magyarhertelend,  
Mecseknádasd, Orfű, Pécsvárad, Szászvár

**Municipality/local authority, groupings, local public entity aggregating municipalities/local authorities, and other organisations involved:**

All settlements are located in Baranya County, so the NUTS 3 codes are the same:  
HU231.

Municipality of Alsómocsolád - Alsómocsolád, Baranya county - LAU: 17385

Municipality of Bikal - Bikal, Baranya county - LAU: 04899

Municipality of Hosszúhetény – Hosszúhetény, Baranya county - LAU: 30836

Municipality of Kárász - Kárász, Baranya county - LAU: 05999

Municipality of Magyarereggy - Magyarereggy, Baranya county - LAU: 29753

Municipality of Magyarhertelend - Magyarhertelend, Baranya county - LAU: 05430

Municipality of Mecseknádasd - Mecseknádasd, Baranya county - LAU: 13444

Municipality of Orfű - Orfű, Baranya county - LAU: 11730

Municipality of Pécsvárad - Pécsvárad, Baranya county - LAU: 10825

Municipality of Szászvár - Szászvár, Baranya county - LAU: 33765

**Sector(s) targeted:**

Public Buildings  
Residential buildings  
Innovative energy infrastructure  
Building integrated renewables  
Sustainable urban mobility

**Overview and objectives of the planned investment:**

The goal of the investment is to use energy as efficiently as possible in the territory of the 10 municipalities, and to produce as much renewable energy as possible to meet local needs. 6 investment packages will be implemented in the framework of the project. As part of this, the complex renovation of many public and residential buildings (insulation, window replacement, heating system modernization, renewable energy utilization, mechanical engineering, installation of intelligent technologies), as well as the purchase and establishment of numerous electric vehicles and charging stations will take place. As pilot subprojects, a solar station placed on a fishpond will be installed, a biomass plant will be established to treat green waste in public areas, and a heat pump will be established to utilize industrial waste heat. As a result of the project, municipalities can operate at lower costs and create more efficient, greener and smarter settlements. Residents can create homes with more energy efficiency and lower utility bills.

**Estimated costs and revenues:**

*Total operating cost (year): 584 454 EUR*

*Total revenues (year): 3 681 585 EUR*

**Economic viability:**

- *Simple payback period:* 13.82 years (1.67 years calculated with presumptive grant funds)
- *Net Present Value:* 7 908 660 EUR, discount rate: 7,98 %
- *Internal rate of return:* 8,29 %

**Expected impacts:**

*Energy savings:* 29,45 GWh/y

*Renewable energy production:* 14,24 GWh/y

*Avoided CO2 emissions:* 8 594 tCO<sub>2</sub>eq/y

*Other impacts:*

- Lower pollution thanks to sustainable urban mobility.
- More liveable living conditions and transport options.
- Reduction of overhead expenses at the residential level.
- Reduction of overhead expenses at the local government level, the possibility of redeploying freed-up funds.
- Reduction of energy dependence.
- Creating a more sustainable settlement environment.

**Activities funded by the EUCF grant:**

Thanks to the EUCF fund, it was not only possible to finance the project management, but the consortium was also able to request external experts to compensate for the lack of expertise in order to prepare a well-founded and comprehensive investment report. The grant has been used for the following activities: project management, public procurement expert, expert for quality control, expert for preparing the investment concept (engineering analysis, legal analysis, market study, financial analysis).

**Allocation of EUCF grant:**

In-house staff

External experts/sub-contractors

**Lessons learned:**

The main lessons learned during the development of the concept are the savings and development opportunities inherent in the pilot projects, the similarity of the challenges of public buildings in different settlements, the non-modernity of the residential building stocks, and the need to continue the consortium in order for the development ideas to be realized. The compliance with the application requirements of the different grant funds, the difficulties to allocate own funds, the changes and deficiencies of the legal environment, and the challenges of the residential buildings renovations (the lack of funding and motivation) are the main challenges and difficulties that have arisen.

**Contact person:** Gabriella Zagyva

**Organisation:** Municipality of Alsómocsolád (VAT number: 15334778102)

**Department:** -

**Street, No.:** Rákóczi u., 21

**Postal Code, City:** 7345, Alsómocsolád

**Country:** Hungary

**Telephone:** +36707758418

**E-Mail:** zagyva.gabriella@alsomocsolad.hu

**Consultancy Support:** Anita Demény, ÉMI Non-Profit Llc. for Quality Control and Innovation in Building, ademeny@emi.hu