BEST PRACTICE IN HUNGARY – ENERGY EFFICIENT CITIES

BASIC INFORMATION

Title of the Best Practice:

Construction of the “Boiling Point Energy House”, Paks, Tolna, Hungary

Energy efficiency measures implemented in the building: The building was constructed using traditional materials, such as adobe, which when used correctly, can reduce cooling and heating demand. A mobile hull was installed to increase insulation in cold weather and to decrease cooling demand; that also effect solar exposure. Geothermal probes and water-source heat pumps are also installed.

Location:

City: Paks

Region: Tolna County, South Transdanubia

Country: Hungary

GoogleMaps link:

https://goo.gl/maps/D53TWNvCpPF2

Partners involved:

- Prof. Dr. habil István Kistelegdi DLA, PhD; H-7624 Pécs, Ifjúság str. 20, Room A-114 (János Szentágothai Research Centre), web: https://energiadesign.hu/en; planner

- Active Energy Association (www.forraspontpaks.hu, H-7030 Paks, Elkerülő str. 4852/1), investor and applicant

Implementation year: 2017

Photos:

Source: http://epa.oszk.hu/02900/02971/00027/pdf/EPA02971_octogon_2017_1_056-061.pdf

SYSTEM CHARACTERISTICS

Brief Description*:*

The aim of the investment was to provide an example of a building which can adapt to the outer circumstances, such as temperature, solar exposure, humidity, ventilation, etc. by a mobile outer shell moved by a pulley system. The Energy House was built using traditional “adobe” bricks and a monolithic concrete structure, therefore it can exploit the advantages of said brick, which are improved humidity control due to the ability to absorb 40 times more water than modern bricks and to accumulate more heat which is useful both during winter and summer.

FINANCIAL SOURCES AND FINANCING DETAILS

Total investment value: 46,000 EUR

Sources of financing: national funds: KEOP-6.2.0/B/11-2013-0006 (mainstream OP)

Electricity savings (MWh/year): not applicable

Or fuel savings (kg or m3 or kWh or GJ): not applicable

Cost savings (EUR/year): not applicable

PROJECT IMPLEMENTATION BENEFITS

The gains are diverse:

- the building itself benefits from the materials used as explained above and there are specific advantages coming from implementing the building as a project, since it is a testbed for specific technologies in itself.
- The City gained a community space, but the unusual solutions, such as the moving outer hull prove that such experimental techniques could be used elsewhere if the energy consumption data will support its usefulness.
- The Boiling Point Energy House gained a lot of publicity on its own drawing attention of the general public to energy efficiency.

ADDITIONAL INFORMATION

The project was funded by KEOP (Environment and Energy Operational Programme), one of the mainstream EU funded Operational Programmes of Hungary. The specific call was “Promoting sustainable lifestyle and consumption opportunities by implementing pilot projects” aiming at carrying out model investments that are innovative and can raise awareness to different topics of sustainability, such as energy efficiency.