INVESTMENT FACTSHEET

(applicable for investments > 25.000 EUR total cost)

Project index number	CE0100345	**Acronym**	ZEB4ZEN
Investment number	I2.3	**Investment title**	Green and digital neighbourhood transformation pilot
Linked to pilot action (Output number - O.xx)	O2.3.	**Pilot action title**	Green and digital neighbourhood transformation pilot
Responsible partner	City of Karlovac		
Investment finalisation date	03.06.2026.		
Project website	https://www.interreg-central.eu/projects/zeb4zen		

Summary description of the investment

Please address the following topics.

Technical description of the investment (e.g. specific characteristics, technological concept, size, capacity, etc.)

(max. 5000 characters - depending on the investment size and related costs - if needed, please adjust the size of the textbox accordingly)

The investment which contributes to the pilot action A2.3, consists of the feasibility study development, executive design, installation of equipment, commissioning of a small-scale PV plant, storage system (EV) and V2X smart bidirectional e-mobility charging system and energy management solution. The pilot investment is a showcase of one controllable system combining green and digital (ICT) technologies and solutions by integrating supply (PV plant up to 20 kWp), storage and demand side by integrating renewable energy and transport sector (V2X) within the build environment.

The pilot location is part of the historical star shaped city neighbourhood of Karlovac and it represents nexus between the building and neighbourhood transport sector. Just recently the city retrofitted the City Hall main building which is situated in the very same old city neighbourhood by implementing standard retrofit measures (installation of new LEDs, mechanical ventilation heat recovery system, thermostatic radiator valves and circulation pumps with frequency regulation) and some specific measures regarding the retrofit of the building envelope (windows, doors, walls, etc.) which is under protection because of the cultural/historical point of view. The PP2 experience of already implemented measures, especially the ones regarding the building envelope, served as a great input for the Pilot investment 2 in Zamość.

This pilot project demonstrates smart solutions that go beyond the standard energy retrofit measures of a single building by also including the transport sector which covers the large portion of the neighbourhood energy consumption. Besides inclusions of the transport sector, the pilot investment also serves as a test base for digitalization and integrated management of energy generated within the neighbourhood building block and implementation of novel solutions such as storage system for better energy management within the neighbourhood.

Transnational relevance of the investment and how it contributed to the pilot action
(max. 1000 characters)

This pilot investment aims to reduce greenhouse gas emissions in Europe by stimulating the digitalisation of a specific part of the neighbourhood, which can be easily replicated and expanded on a wider scale across the EU through the WP2 pilot. As a fairly large proportion of buildings (the total building stock consumes around 40% of energy and generates around 36% of CO2 emissions) in the Central European neighbourhood are in the cultural heritage area where standard energy efficiency and renewable energy integration systems are not acceptable, this pilot investment is of very high transnational importance as it will become a successfully implemented example of how to integrate different sustainable technologies and ICT solutions within existing protected areas, and our key goal is to scale it up during the project implementation.
Within WP2, each pilot action consists of continuous mutual learning activities in which all partners are involved as reviewers of the potential for transferability and replicability to other pilot neighbourhoods. Replicability of the action is ensured by communication activities and clearly defined and jointly developed deliverables.

Ownership, durability and, if applicable, maintenance of the investment after the project end (see also programme manual chapters I.4.3.6 and III.5)
(max. 1000 characters)

The owner of the site is the City of Karlovac (PP2) that is in charge of the investment. The City of Karlovac will retain the ownership of the investment after the end of the project and will take care of the maintenance of the equipment installed. Maintenance will be subcontracted to a third party, technically competent and experiences and selected through a public tender.

Potential for scaling up or replicating the investment, contribution to the preparation and leverage of large-scale investments (if applicable)
(max. 1000 characters)

By implementing interactive exchange of experience workshop within the WP2 we are also aiming at transferring the results of the pilot investments to all project partners as well as respective associated partners. By attending international conferences and various other events, project partners will widespread and promote this pilot investment to a wider audience.

Environmental sustainability of the investment
Description of possible environmental effects of the investment. In particular for infrastructure investments with an expected lifespan > 5 years, possible impacts of climate change and planned mitigation measures for increasing climate resilience of the investment, if applicable (see also programme manual chapters I.3.3.3, I.4.4.5 and II.2.1.2)
(max. 1000 characters)

The aim of this pilot investment is to encourage the renovation of energy-inefficient public buildings in order to reduce maintenance costs and to provide citizens with an example of how to reduce energy consumption, achieve financial savings and reduce CO2 emissions.
The project has improve energy efficiency and the use of renewable energy sources; therefore, it has the specific purpose of reducing the direct environmental impact of existing energy systems by reducing CO2 emissions and reducing the consumption of fossil fuels. The project has no foreseeable effects on fauna, flora and biodiversity, cultural heritage and landscape.

Fulfilment of regulatory obligations
(e.g. EU and national legislation and environmental policies, authorisations or permits by national/regional/local authorities etc.), if applicable
(max. 1000 characters)

In accordance with legal requirements and regulations, all necessary permits related to the implementation of investments have been obtained.The European Commission adopted a set of proposals to make the EU's climate, energy, transport and taxation policies fit for reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels. The ZEB4ZEN project helps achieve the targets by showing that the slightly changed focus from individual buildings to neighbourhood can boost the implementation of urgently needed green and digital solutions.

Fulfilment of programme branding requirements
(see chapter I.4.4.2 of the programme manual)
(max. 500 characters)

All requirements related to the visibility and branding of the program have been met, i.e. investments through a permanent board, digital screen and labels for equipment.

Investment costs *Please include the total investment costs considering only costs for equipment (CC5) and infrastructure and works (CC6)*				97.660,17 EUR
Location of the investment	**NUTS 3**	HR027	**Address**	Banjavčićeva 9, 47 000 Karlovac, R. Hrvatska
GPS coordinates, if available		45.493°, 15.553°		
Annex(es), if applicable (e.g. pictures) - *please specify the type of annex(es), pdf file to be separately uploaded in Jems*				images related to visibility and promotion.