



Annex E Calculation Log - Expected Size of Investment

Identification of the applicant

Name of municipality/local authority or local public entity
(Name of the lead applicant in case of a grouping)

The Municipality of Krosno

Investment Sector(s) targeted
(same as indicated in the application form)

Residential buildings

Building integrated renewables

Innovative energy infrastructure

Smart Grids, Public buildings, District heating, Public lighting

Summary of results

Investment Sector	Investment size	
Public Buildings	3 761 000	EUR
Residential Buildings	27 183 000	EUR
Building integrated renewables	23 920 000	EUR
District heating	5 040 000	EUR
Smart grids	13 340 000	EUR
Sustainable urban mobility	0	EUR
Innovative energy infrastructure	86 000 000	EUR
Public lighting	1 400 000	EUR
Other sector	0	EUR
Expected total investment size	160 644 000	EUR

Comments

Please use the space below if you have any comments on the calculations and/or results.

Our design concept includes the construction of a self-sufficient and flexible energy system for Krosno on the path to the NetZero City (climate neutral city). As a result of the actions taken, Krosno will eliminate coal in centralized production sources as well as in individual households, which will significantly reduce greenhouse gas emissions.

The project also assumes a smart grid approach to achieve several goals, including the transition from the traditional model of electric grids to intelligent smart grids in order to build own flexible energy system and market that allows to intelligently manage energy and its resources on a city scale and managing all elements included in this energy system. In addition, it is to facilitate the transformation of the city to a climate neutrality, using resources with a low carbon footprint. The concept will include smart metering, intelligent and dynamic management of changes in the level of electricity production and demand, creating social participation through active and engaged local prosumers (individual and collective, e.g. an energy cooperatives), management and planning of microgeneration and microgrids, management of energy generated under RES, use to manage and monitor the VPP model, manage through digital twin models, support balancing, optimization and aggregation of energy and others. The project assumes energy storage from cogeneration systems (heat storage) and production of hydrogen from renewable energy (PV installations). Green Hydrogen will act as an energy storage as well as fuel to be used in cogeneration systems, additionally Green Hydrogen will be used as fuel in public transport buses and in the next steps in vehicles for municipal agencies and companies.

The preliminary vision regarding the energy transformation of the city of Krosno assumes that a significant part of it will be implemented from the level of the created Energy Cluster in Krosno. It is also planned to implement a separate energy network (electricity and heating) - a kind of energy backbone to which points (consumers / producers) will be connected, which will allow for close monitoring of consumption / production and energy balancing - this will contribute to the construction and achievement of energy self-sufficiency of Krosno in the context of a climate neutral city.

In terms of high energy efficiency for (all types) of buildings, the Green Deal guidelines, Fit for 55, the Level (s) initiative framework, the Deep Renovation Wave assumptions will be applied - in order to assess and develop pathways to energy-efficient buildings/zero-emission and zero-energy housing estates Building standards towards creating positively energy city districts (PED) will be deployed as a usable framework.

The project will also take into account new business models and social innovations supporting the proactive involvement and investment of residents and other stakeholders of the city in the comprehensive climate and energy transformation. The new business models are to enable the participation of all city residents and local users in creating modern energy transition communities with local benefits.

One of the idea is a "neutral climate city" hub for collaboration between community or community-based local actors to facilitate community-led climate action and other initiatives. This can be cooperation between citizens, public authorities or policy makers, social groups or NGOs, local businesses, academic institutions, innovation centers and other local or regional stakeholders who wish to support the process.

Krosno expects to show how the energy transformation to renewable energy, also related to the circular economy (the investment process of building a thermal treatment of municipal waste that cannot be reused) has started, can also be a catalyst for the sustainable development of the community, support good business and generate benefits for the local community, as well as related and effective actions/climate change.



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