



ELENA Completed Project Factsheet
District 6 Energy Efficiency for Public Building
((D6EEBP))

Location of planned investments	District 6 of the Municipality of Bucharest, Romania
Final Beneficiary	Sectorul 6 al Municipiului Bucuresti
Final Beneficiary's address	Calea Plevnei, 147-149 Bucharest Romania
CoM signatory	District 6 is not a CoM signatory, but the City of Bucharest is
Sector	Energy efficient building retrofits, built-in small-scale renewable energy projects and construction of new nearly zero-energy buildings (NZEBs)
Total PDS costs	EUR 762,097.81
ELENA contribution	EUR 685,888.03 (90%)
Project development services financed by ELENA	<p>The Project Development Services (PDS) financed by ELENA provided support to District 6 municipality in the implementation of the energy efficiency (EE) investment programme for deep energy retrofit of 12 existing public buildings, managed by the Municipality and for the construction of 8 NZEB3 (nearly zeroenergy buildings).</p> <p>The ELENA TA brought in missing resources and external expertise, since District 6 municipality had limited experience in energy efficiency projects for public buildings.</p> <p>The ELENA PDS Team was composed of District 6 existing and newly-hired staff and external subcontractors.</p> <p>District 6 Staff was responsible for the overall project management, the coordination of external experts and the review of the prepared tender documentation. The 8 staff posts that were funded by ELENA within the duration of the project consisted of the Head of project implementation unit, project managers, technical experts, procurements specialists and administrative staff.</p> <p>External experts provided technical advisory, procurement and legal support, supported the development of feasibility studies and technical advisory. External consultants also provided support to District 6 with operational reporting and communication. In addition, an independent consultant provided implementation support to ensure the compliance of the projects with the planned energy efficiency performance at design, construction and commissioning stage.</p>
Description of ELENA operation	District 6 Municipality was responsible for the preparation and implementation of the entire programme as a central purchasing body and took the final investment decisions, based on the specialized opinion provided by the ELENA TA.
Timeframe	February 2018– February 2022

Investment programme description	<p>The investments included two components:</p> <ul style="list-style-type: none"> • Deep energy retrofit of 12 existing public buildings such as schools and kindergartens managed by the Municipality (48,528 sqm in total), and • Construction of 8 NZEB (21,050 sqm in total) designed for kindergartens and after-school programs <p>The specific EE measures for the first component included the insulation of walls, roofs, floors and pipes, the replacement of windows, the optimized control and regulation of technical installations, ventilation and heating systems, replacement of inefficient installations (e.g. lighting). Furthermore, in every refurbished building, PV panels for self-consumption and solar heat water for hot water production were installed. The first investment component is expected to result in average final energy savings of 59% regarding the initial baseline. The buildings under the second component will achieve a primary energy consumption (excluding renewables) below 115 kWh/sqm, in line with Romanian legislation (transposing EU applicable directives). The achievement of the nearly zero-energy building standards is achieved by the thermal insulation of building envelope, including high-performance windows and automatic blinds for windows, the regulation of heating systems, the intelligent architectural design, and high-performance mechanical ventilation systems. A specific effort was made by Sector 6 to maximise the share of renewables, which are expected to cover 30-50% of the total primary energy consumption thanks to the installation of solar PV and solar thermal panels in each newly-constructed building.</p>
Investment in implementation phase	EUR 26.9m
Results expected to be achieved	<ul style="list-style-type: none"> • RE generation – annual total renewable energy generation 0.4 GWh_{el} and 0.39 GWh_{th} • Energy efficiency – annual total savings in the final energy consumption of 5.18 GWh (59% of the initial baseline) • CO₂ reductions – annual total emission reductions of 1,250 t CO₂ e
Leverage factor achieved	39
Lessons learnt	<ul style="list-style-type: none"> • ELENA Assistance has substantially contributed to the establishment of the technical and financial framework for District 6, ensuring the development of the first NZEB public buildings, serving as an example for future NZEB public buildings in Romania. The documentation made with ELENA assistance can serve as examples of good practices and will ensure the premises for the future development of Energy Efficiency projects in several public buildings in District 6, reaching the highest level of energy efficiency improvements and renewable energy installation. • The use of the design and build procedure to implement part of the investment programme (both for retrofit and new construction) allowed to update the technical solution in real time. • The involvement of an independent expert in the NZEB and retrofit projects, in particular to check the energy consumption at commissioning, allowed to optimize the setup reference values for technical equipment. Furthermore, the presence of the expert allowed to check and solve small execution deficiencies so that the buildings would comply with the technical parameters imposed by the technical expert.
Further information sources	N/A
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