



ELENA Completed Project Factsheet

Common Energy Investment Programme in the Capital Region of Denmark (CEICAD)

Location	Capital Region of Denmark
Beneficiary	Capital Region of Denmark
CoM signatory	No
Sector	Energy efficiency in buildings and street lighting, small renewable energies
Total PDS costs	EUR 2 298 305
ELENA contribution	EUR 2 068 475
Project development services financed by ELENA	<p>During the project period 65 contracts for technical assistance with external consultants (engineering and architectural firms) have been made among others for:</p> <ul style="list-style-type: none"> • Preparation for replacement of windows, heating systems, boilers, installing of PV systems, LED lighting, conversion of heating from gas to district heating, building envelope, roof insulation, solar thermal heating • Design of ventilation systems • Calculation of alternative solutions for improving the building envelopes • Preparation of tender documentation • EU tender preparation for framework agreements • Energy screening of public buildings • Technical assistance for exchange of outdated street lighting systems <p>Internal technical assistance included:</p> <ul style="list-style-type: none"> • Development of a number of guidelines to be used by the partners on a variety of EE projects: PV, lighting, replacement of windows, insulation • A short summary of the guidelines can be read below • Management of the ELENA project • Inspection of the ventilation and heating systems • Assessment of the energy saving potential in public buildings • Quality assurance of tender materials for energy retrofitting of buildings • Review of project documentation • Quality assurance of energy labels for public buildings, PV projects, ventilation systems • Review of tender proposals • Calculation of energy savings in buildings
Description of ELENA operation	The project development services financed the creation of a project implementation unit (support unit) assisted by external consultants for specific assignments, which supported municipalities and the Region itself in preparing and implementing the investment programme.
Timeframe	December 2013 – November 2016
Basis for investment identification	The investments were identified by the municipalities participating in the project and by the Support Unit created internally to support project identification and implementation.

Investment programme description	<p>The investment programme supported by ELENA was implemented in several municipalities in Central Denmark. The main sectors included:</p> <ul style="list-style-type: none"> • Renewable energy electricity production (PV) • Energy efficiency in buildings • Energy efficiency in street lighting <p>The supported measures included:</p> <ul style="list-style-type: none"> • Thermal rehabilitation • Indoor lighting • Heating systems • PVs • HVAC systems • Replacement of windows • Street lighting • Air curtains • Swimming pool covers to reduce heat loss from the water and decrease emission of water and chlorine to the air, which reduce the need for ventilation, hence saving energy when pools are not used.
Investment in implementation phase	EUR 58m
Results expected to be achieved	<p>Energy Efficiency – annual total energy saved 28 GWh Renewable Energy generated – 1.9 GWh CO₂ reductions – 7 400 CO₂ eq t per year</p>
Leverage factor achieved	28
Lessons learnt	<ul style="list-style-type: none"> • <u>Project economy</u>: a project should not be viewed from the repayment time of investments only. It is important to approach projects with a holistic assessment of energy savings, life-span extensions, saved maintenance costs and improvement of indoor environment in an overall evaluation of a project's potential realisation. There are benefits from combining energy initiatives and operation/maintenance costs in the same project/tender and thereby achieving a comprehensive upgrade of a building. • <u>External technical assistance</u>: The most efficient way to obtain professional assistance is through precisely defining the job. If a consultant job is defined precisely, it can be put for tender to a fixed time and hourly rate and secure a fair competition on price and quality. In ELENA-projects and other projects with a fix termination date it is crucial to draw attention to the risk of capacity problems of an individual consultant company. • <u>Knowledge sharing</u>: It has been an important element throughout the CEICAD project to contribute to the development of staff qualifications and skills. This has come about partly through meetings and seminars on technical subjects, i.e. PVs, renovation of building envelope, lighting, ventilation, innovation and total value, partly through the internal technical assistance to the partners. The development of skills and sharing of knowledge have been and important gain from participation in the CEICAD project.
Further information sources	www.regionh.dk
Contact person at Beneficiary	Flemming Jørgensen