



ELENA Completed Project Factsheet

ENERGY EFFICIENCY IN SOCIAL HOUSING – FREDERIKSHAVN HOUSING ASSOCIATION

Location of planned investments	Frederikshavn Municipality, Region of North Denmark
Final Beneficiary	Frederikshavn Housing Association (Frederikshavn Boligforening)
Final Beneficiary's address	Harald Lunds Gade 15 DK 9900 Frederikshavn Denmark
CoM signatory	Frederikshavn Municipality is member of Covenant of Mayors and the results on energy savings from Frederikshavn Housing Association is an important part of the aims on energy savings in Frederikshavn Municipality.
Sector	Energy Efficiency and Renewable Energy in buildings
Total PDS costs	EUR 1 672 783
ELENA contribution	EUR 1 505 505
Project development services financed by ELENA	<p>The ELENA team provided support to implement substantial EE refurbishment programmes and renewable energy investments through 113 assignments in buildings managed by the association.</p> <p>The ELENA team was integrated in the housing association and consisted of 8 existing and newly-hired staff (working part time or full time). In addition, the ELENA secretariat was supported by external consultants.</p> <p>The ELENA secretariat primarily:</p> <ul style="list-style-type: none"> • Managed all the technical assistance needed during the project; • Ensured the communication with all the project's stakeholders; • Established a contractual framework for the use of external consultants and sign and monitor the consultancy contracts; • Carried out buildings' inspections and energy audits, as well as studies for PV installations and energy storage; • Assessed the most cost-efficient solutions to carry out the renovations (including the bundling of projects in bankable and cost-effective investment programmes and evaluation of financial instruments); <p>Prepared the tender for construction works, evaluate bids and monitor quality during implementation.</p>
Description of ELENA operation	<p>The final investments depended both on the approval of the sub-associations and the results of the renovation assessment studies. The implementation of a renovation project consisted of four key phases and ELENA supported specifically phases 2 and 3:</p> <ul style="list-style-type: none"> • Phase 1: approval from residents • Phase 2: renovation assessment • Projects start with condition assessments of buildings in groups by age, architectural features, construction methods and installations types This step will determine the final EE measures to be implemented to reach the planned energy savings targets (30%) • Phase 3: tenders and decision • The technical assistance supported by ELENA will provide the basis for a call

	<p>for tenders for the projects</p> <ul style="list-style-type: none"> Phase 4: implementation
Timeframe	January 2019– December 2022
Investment programme description	<p>The investment programme consisted of energy efficiency (EE) refurbishments in residential buildings as well as investments in building-integrated renewable energy (RE) technologies. In total 66 projects were implemented, and several other will start after the end of the ELENA contract.</p> <p>The existing conditions of the buildings determined the level of refurbishment and the energy performance to be targeted. The global target was to reach a reduction of 30% energy savings in average, with large variation between global refurbishment and small projects targeted on one technical improvement.</p> <p>EE measures included the improvement of the building envelope, lighting systems, windows, HVAC, EV charger and smart energy monitoring systems for the tenants. The RE measures were integrated PV panels and one battery for energy storage.</p>
Investment in implementation phase	EUR 15.7m
Results expected to be achieved	<p>The total estimated contributions are:</p> <ul style="list-style-type: none"> Energy Efficiency – Annual total energy saved 3.8 GWh; Renewable Energy – 0.13 GWh RE electricity generation; CO2 reductions – Annual total reductions of 327 CO2 eq t; <p>Jobs retained or created - in 38 equivalent FTE.</p>
Leverage factor achieved	10.58
Lessons learnt	<p>The ELENA grant has been a large contributor to the energy projects that Frederikshavn Boligforening has carried out over the 4-year period. It has given the organization a significant boost and experience with implementing energy in its project, and it has contributed to a shift in attitude towards energy projects in all layers of the organization. After the ELENA project, Frederikshavn Boligforening will be much more equipped to tackle the future energy projects, and it has helped develop a framework to reach goals of energy efficiency and renewable energy set by the board.</p> <p>A social housing association is based on “resident democracy”, which means that most of the power lies in the hands of the residents. Therefore, it can be quite challenging to predict when projects can be approved and realized. Residents are quite often mostly concerned about how large the rent will be after a renovation, and large projects can be voted down because they would be too expensive. This requires a lot of preparation from the social housing association to find the cheapest solutions while adhering to the building code set by the Danish law.</p> <p>The ELENA grant has helped Frederikshavn Boligforening prioritize this preparation to get as many energy projects approved as possible.</p>
Further information sources	https://www.frederikshavnboligforening.dk/informationer/elena-projektet/
Contact person at ELENA Beneficiary	Brian Thomsen - brian@fbmail.dk