



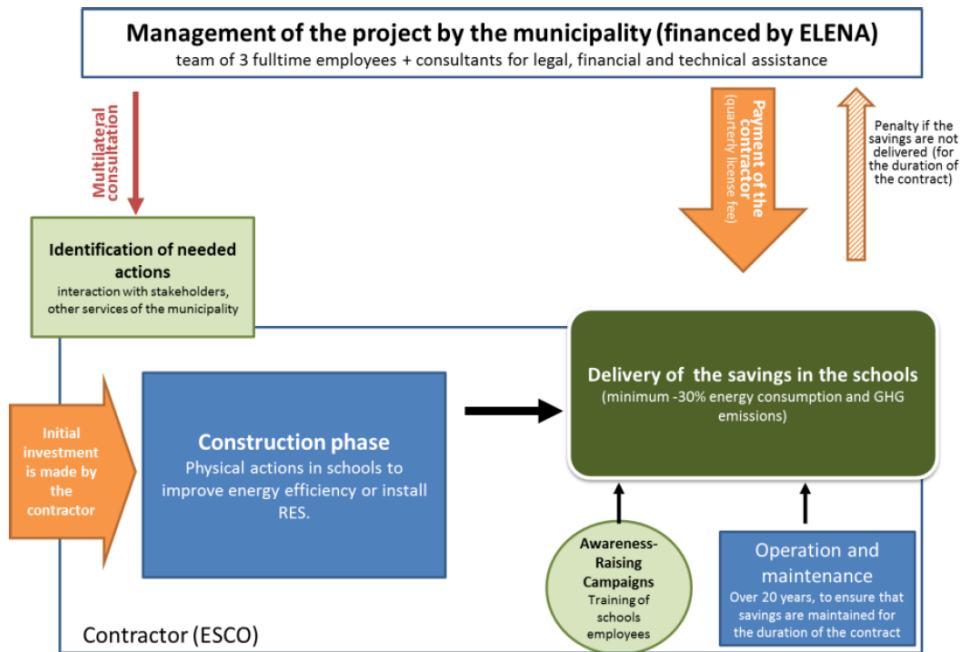
ELENA Completed Project Factsheet

Contrats de performance énergétique des écoles de la ville de Paris (CPE – Ecoles)

Location	Paris, France
Beneficiary	City of Paris
CoM signatory	Yes
Sector	Energy efficiency and renewable energy in public buildings (schools)
Total PDS costs	EUR 939 835.47
ELENA contribution	EUR 845 851.92
Project development services financed by ELENA	<p>Preparation and implementation of investment programme:</p> <ul style="list-style-type: none"> • Development and management of the investment programme • Identification of schools to be refurbished • Preparation of energy performance contract approach, carrying out preparatory studies • Preparation of energy baseline for energy performance contracts in 240 schools, divided in two different contracts • Design of contracts and tender documents • Supported the launch of tenders, evaluation, negotiation and contract signature • Monitoring of the contract already signed (CPPE) and revision of the tender documents for the second EPC based on the lessons learned • Development of training sessions and awareness campaigns addressed to teachers, pupils, employees and pupil's parents
Description of ELENA operation	<ul style="list-style-type: none"> • Set up of a project implementation unit within the sustainable building directorate of the City of Paris • Establishment of a Project Implementation Unit which is composed by three full time additionally hired staff responsible for managing and implementing the contract • Definition of the investment programme, management of the preparation, launching and negotiation of the tenders (two EPCs, including 100 and 140 schools) • Supported by other directorates of the City (legal advice, education etc.) • Acquisition of external expertise related to preparation and signature of EPCs, monitoring of implemented contracts and targeted information actions. The external expertise was related to legal, financial and technical aspects (measurement and verification) of the contract
Timeframe	December 2010– June 2015
Basis for investment identification	Climate action plan for the city of Paris
Investment programme description	<p>The investment programme contributed to:</p> <ul style="list-style-type: none"> • Improvement of the building shells (insulation of roofs, floors and walls, replacement of windows, boilers, insulation of heating network and

	<p>installation/replacement of thermostatic valves)</p> <ul style="list-style-type: none"> • Installation of building energy managements systems with control and monitoring of the energy devices installed • Installation of energy efficient lighting systems <p>This works were developed based on Energy Performance Contracts (EPC), and for this purpose two tender were published:</p> <ul style="list-style-type: none"> • CPPE: The first EPC tender, included 100 schools, and contributed to annual savings of 10.7 GWh and 2 296 t CO₂eq • CPE 140: The second EPC tender, included 140 schools, and contributed to annual savings of 14.98 GWh and 3 214 t CO₂eq
Investment in implementation phase	EUR 65.4m
Expected results	<ul style="list-style-type: none"> • Energy savings: 25.68 GWh/y • CO₂ reduction: 5 510 t/y
Leverage factor	77
Lessons learnt	<ul style="list-style-type: none"> • Success story: based on the good experience of ELENA project CPE Écoles, the municipality of Paris decided to continue with the project, and recently launched another tender process to develop a new EPC for 60 schools • Energy Performance Contract: the experience of the first CPE (CPE 100), which became a reference at national level and even beyond, has shown that companies are able to propose innovative solutions adapted to objectives within limited budgets, and it also contributed to the development of new and ambitious energy efficiency programs • Energy Performance Contract: the results achieved with the EPCs are very positive and encouraging, although some technical issues occurred during the first heating season had affected the acceptance of the project, once the new temperature set-points were misunderstood. In this way, the second EPC (EPC 140) evaluation method included a criteria to evaluate the different proposal in terms of the thermal comfort provided during winter and summer • The project contributed to the development of a cross-sectorial vision of energy efficiency actions within the municipality. The experience acquired with the first EPC allowed the municipality to overcome the strict division of tasks and the silo mentality that prevailed in its internal organisation • The project allowed the municipality to acquire technical expertise to independently develop its own energy efficiency projects and to assist other public authorities in the development of similar projects, allowing in this way to replicate the project objectives and/or methodologies • Measurement and verification of energy savings in the Energy Performance Contracts is not always a straightforward activity, and that was decided to use an international protocol IPMVP (International Performance and Verification Protocol), to monitor the contract results
Further information sources	https://www.paris.fr/actualites/les-ecoles-municipales-a-l-heure-du-plan-climat-et-energie-de-paris-4289
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Organisational chart of the CPPE contract (Source: Energy Cities)



Organisational chart of the CPE 140 contract (Source: Energy Cities)

